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AN

INQUIRY

INTO THE

PRESENT STATE

OF

MEDICAL SURGERY;

INCLUDING

The ANALOGY betwixt EXTERNAL and INTERNAL DISORDERS; and the [illegible]LITY of these BRANCHES of the same PROFESSION.

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Rationalem quidem puto medicinam esse debere; nihilque vero ab evidentibus causis, obviis omnibus, non a cogitatione artificis, sed ab ipsa arte rejectis. CELSUS.

VOL. II.

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MDCCLXXXVI.

PREFACE.

ABSCESSES after breaking, or being opened, and wounds upon diſcharging ichor or pus, immediately become ulcers; wherefore, we ſhall now treat of theſe maladies till they arrive at that ſtate, referring the remainder of the cure to a future volume: there we intend to begin with the moſt ſimple ulcer, immediately following a wound, and proceed to thoſe which are accompanied with a bad habit of body, or which by improper treatment, or by length of time, are become chronical; in the hope by this means, to give a diſtinct view of the ſubject.

In a work which propoſes to point out "what doctrines ought to be rejected

"ed, and what retained, where im-
"provements are wanted, and in what
"manner they may properly be made;"
preference muſt ſometimes be given to old, and ſometimes to new opinions, or both be deſervedly overlooked when they do not accord with truth. Such things as are true and commonly known, will be treated ſo far only as is neceſſary to keep up a regular chain in the work; my intention being to write for thoſe who ſtand in need of aſſiſtance, a medico-chirurgical directory, *deduced from nature:* well knowing there is not any thing more dangerous than reading, before the mind is capable, from experience, of ſelecting truth from error. What I recommend to my own ſons, I hope will be acceptable to others in the ſame ſituation, and having endeavoured to conform ſtrictly to truth, I ſhall ſay with Horace

Æquum mî animum ipſe parabo.

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DEFENCE

OF SOME OF THE

DOCTRINES

IN THE

PRECEDING VOLUME.

ADVERTISEMENT.

SINCE the former volume was publiſhed, ſome objections have been made to part of the doctrines advanced, which ſeem to demand conſideration. And though they are urged by writers concealed, yet as it is not the perſon, but the arguments of an author, that ſhould be attended to, I have examined ſuch of them as require notice, in the hope of aſcertaining truth; and I truſt it will appear, that I am not ſtimulated to the following defence by any other motive.

A DEFENCE OF SUCH DOCTRINES IN THE FIRST VOLUME, AS HAVE BEEN CONTROVERTED.

PART THE FIRST.

WE have already ſeen, that inflammation of the ſkin and membranes, muſt either diſperſe, or end in putrid diſſolution; becauſe neither of theſe ſubſtances can be converted into pus, nor can ſerum or lymph take this form, unleſs extravaſated *.

* Chap. iii vol. i.

On the contrary, when the cellular and adipoſe membranes, are the ſeat of inflammation, ſuppuration is a natural conſequence; or when ſerum is extravaſated into cavities, &c. its more volatile parts evaporate, or are abſorbed, and pus is formed*; unleſs this fluid is ſo very corroſive, as to produce putrefaction: and the concluſion formed was, that the different terminations of inflammation, ariſe from the nature and ſituation of the offending cauſe.

But though it is acknowledged, "that "theſe views are recommended by their "ſimplicity," it is ſaid, "they effectually "oppoſe the obſervations of the moſt "reſpectable phyſicians, and readers will "judge, whether the author's arguments "are ſufficient, to confute the old ſyſtems. "Dr. Kirkland will probably allow, that "inflammations of the lungs, are rarely

* See Chap. on Purulency.

"confined

" confined to one part of thoſe organs;
" yet there is the moſt deciſive evidence
" of all the different methods of termi-
" nation from a peripneumony. A pu-
" trid diſſolution is not indeed ſo fre-
" quent, becauſe a ſupervening hæmor-
" rhage often prematurely cloſes the fatal
" ſcene. And he will find among re-
" peated inſtances of the various termi-
" nations, in Morgagni's very valuable
" work, *De cauſis et ſedibus Morborum*, that
" a looſer texture of the lungs is men-
" tioned, as well as their reſembling the
" liver from an effuſion of blood. Our
" author will find alſo, various inſtances
" of ſuppuration, and putrid diſſolution
" of the brain, in Le Cat and Deddier;
" and he will allow, that inflammations
" of that part frequently terminate in
" reſolution. Even the eryſipelas, the
" chief ſupport of his reaſoning, is *ſome-*
" *times* inflammatory. In the ſame epi-

" demic, and in the adjoining beds of an " hoſpital, it has been ſometimes putrid, " and ſometimes terminating in ſuppura- " tion, apparently from the different " habits of the patient, and not from the " violence of the complaint *."

To which we may reply, that our obſervations are drawn from nature inſtead of books; and, for this reaſon, may not perhaps correſpond with the doctrines of former writers: that though we have more than once ſeen a real abſceſs of the lungs, which came on in conſequence of a peripneumony, yet if any judgment may be formed from practice, and opening thoſe who have died of this diſeaſe, I believe it more commonly terminates by reſolution, or ſuffocation; and notwithſtanding writers talk of ſuppuration in inflammation of the lungs, yet in this account, it may be obſerved, they much oftener deſcribe expectoration than abſceſs.

* Crit. Rev. April 1783.

We

We were alſo appriſed, from the writings of Hippocrates *, Riverius †, &c. as well as from practice in injuries of the ſkull, by our own diſſections, and thoſe of Sir John Pringle ‡, and others, that a ſuppuration, or a putrid diſſolution of the brain, ſometimes happens; yet none of theſe circumſtances invalidate the doctrine advanced: for I know of no part of the body which may not putrify in conſequence of inflammation or acrimony, under particular circumſtances; and we will attempt to explain the manner, in which an inflammation of the lungs, or the parts within the ſkull, may either diſperſe or ſuppurate.

The lungs are made up of an infinite number of membraneous cells, in innumerable ramifications, of a cartilaginous ſubſtance; and covered with a membrane.

* De Morb. lib. ſect. 4. † De Abceſ. Cerebri.
‡ Ob. Diſ. Army, part iii. chap. 6. n. 4.

When a ſimple inflammation or an eryſipelas happens to ſuch parts, it may terminate by reſolution, in the ſame manner as an inflammation in the membranes covering the liver, and other membranes under the ſame predicament. When the inflammation is greater, and mucus or lymph, ſecreted in greater quantity, than it ought to be, it often eſcapes into the branches of the bronchia, as the inflammation begins to ſubſide, and is diſcharged by expectoration; ſometimes in a crude ſtate, with or without ſtreaks of blood, from the ſmall arteries; and at others, when its more volatile parts are evaporated, in the form of pus, or, what phyſicians have in this inſtance all along called, well digeſted matter, which not unfrequently terminates the diſeaſe happily, by the ſame kind of reſolution: as when the juices in a ſimple inflammation of the ſkin, or in an eryſipelas, exude

exude upon the ſurface. But when the inflammation ſurrounds the extravaſated fluids, ſo that they cannot eſcape, an abſceſs may be the conſequence*; unleſs ſuffocation previouſly takes place, from extravaſated blood, from mortification, or, what I believe more commonly happens, from a great load of yellow lymph, accompanied with a turgency of the blood-veſſels.

No one I ſuppoſe will contend with me, that the membranes are not ſometimes inflamed, without the inflammation extending to the brain itſelf†; and this inflammation will terminate either by diſperſion or putrefaction. But when ſerous fluids, which poſſeſs acrimony, are ob-

* See Morgagni Epiſt. 20. lib. ii.

† This ſo frequently happens in injuries of the ſkull, that it muſt be known to thoſe, who have ſeen the practice of ſurgery; and thoſe who form their judgment from reading, may meet with caſes in point, in Lieutaud, Hiſt. Anat. vol. ii. p. 146.

ſtructed

ſtructed in the brain, in conſequence of inflammation, they may readily diſſolve this tender ſubſtance, in the ſame manner as they diſſolve the fat in the adipoſe membrane, the parenchymatous part of the liver, &c. and a kind of ſuppuration will enſue. Nor were theſe diſtinctions unobſerved, by former phyſicians. Riverius* after telling us, that the ſubſtance of the brain is a ſeat of abſceſs, and ſphacelus, ſays *cauſa illius immediata, eſt cerebri ſubſtantiæ inflammatio. Quæ tamen a phrenitide diſtinguntur, ex eo, quod in ea, membranæ potiſſimum inflammantur, & ab iis inflammatio parti, tantum exteriori, & contiguæ communicatur. In hac vero inflammatio, partes cerebri interiores, ac totum prope modum illius ſubſtantiam occupat. Magna autem illa inflammatio in parte molliſſima, & hu-*

* Prax. Med. lib. i. cap. 12. de cerebri abſceſſu & ſphacelo.

midiſſima,

*midiſſima, brevi ſphacelum accerſit**. This has ſince been abundantly confirmed by diſſections, and it muſt be known to every ſurgeon, that matter is ſometimes formed betwixt the dura and pia mater, by inflammatory exudation, as happens in inflammation of the cheſt.

2d. An eryſipelas, is not only *ſometimes*, but is *always*, inflammatory. It is a particular name given to one kind of inflammation; wherefore Galen ſays *Eryſipelas tumor eſt inflammatus, at non ſemper elatus*†, in which light, in compliance with common ſenſe, and with the opinion of the beſt writers, it was conſidered; and we confeſs ourſelves

* The immediate cauſe is an inflammation of the brain, which nevertheleſs, is diſtinguiſhed from a phrenitis, becauſe in a phrenzy, the membranes chiefly are inflamed, and hence the exterior and contiguous part only is affected. In this diſeaſe, the inflammation affects almoſt the whole ſubſtance of the brain: but when great in this very ſoft and moiſt part, it brings on a ſphacelus in a ſhort time.

† Com. in Hippoc. lib. xxx. de offi. cap. 30.

rather at a loſs, to conceive how it came to be viewed in any other light! Indeed, Sydenham* mentions a ſecond ſpecies of eryſipelatoſe fever, but has not Boerhaave† pointed out, that it ought to have had a different appellation? Hoffman‡ refers exanthemata to this claſs; Platner‖ who copied Hoffman, ſays *ſi Eryſipelas ſine inflammatione eſt, minus periculum habet:* but whoever ſaw a real eryſipelas without inflammation? Some of the moderns, it is true, have taken into their account, both exanthemata, erythema, gutta roſacea, ſhingles, &c. and by thus adhering to book-ſyſtem, inſtead of nature, they hand down to us confuſion and bad practice. Exanthemata and eryſipelas are diſtinct diſorders, and the pow-

* Chap. on Eryſip. Fever, ſecond ſpecies.
† V. S. Com. ſec. 723.
‡ Med. Rat. Syſtem, vol. iv. b. i. ſec. 1. cap. 13.
‖ Inſtit. Chirur. p. 75. ſec. 161.

ders

ders they recommend for external application*, were firſt deviſed for another diſeaſe, and are often injurious when uſed on the preſent occaſion.

The ſame epidemic will, no doubt, have different effects upon different habits of body; yet when it happens, that in the adjoining beds in the ſame hoſpital, it is ſometimes putrid, and ſometimes terminates in ſuppuration, it only follows, that one of the patients has what has hitherto been called a phlegmonoide eryſipelas, and the other not: for a true eryſipelas never ſuppurates, unleſs, as we have elſewhere obſerved, a diſſolution of the ſkin and membranes into rags may be called ſo. Nor do I remember any mention being made of the termination of inflammation by the *violence of the complaint*, in the book in queſtion, but from the *nature* and *ſituation* of the offending cauſe;

* See former vol. p. 339.

in

in which account a little reflection will ſhew the habit of body of the patient, to be comprehended.

Again: it is feared, that the very general recommendation of ſedative applications to eryſipelas, may ſometimes be injurious, and that I have conſidered it too frequently as a diſeaſe merely local.—But if we underſtand our own meaning, we are certainly miſapprehended; for though the cauſes, from whence a local eryſipelas may ariſe, are noticed, the uncertainty of even knowing when it is local, though brought on by an external cauſe, is pointed out; with a caution, if any doubt ariſes, to treat it as a general complaint. I ſuppoſe it will be allowed, that there is ſuch a diſeaſe as a local eryſipelas, which ought to be treated as ſuch. But in ſpeaking of the uſe of ſedatives in this inſtance, have not we ſaid, *they are repellents, and ſhould not be applied, unleſs the diſeaſe is ſlight,*

ſlight, and we are certain it is local? We certainly paid more attention to critical than to local eryſipelata; but I refer to the book * where the reader may judge for himſelf, and he will diſcover, that neither the uſe of bleeding, purging, or cordials, had eſcaped our notice.

3d. The looſe texture of the lungs, or their liver-like appearance, has nothing to do with the ſubject; for though a celebrated lecturer †, adopted this mode of termination from Morgagni's diſſections §, and though it is certain death puts an end to all things, yet we ventured to overlook it, becauſe it is a mere accident, contrary to nature, and not to be imitated, by deſtroying the patient. Our inquiry was into the manner in which nature herſelf terminates different kinds of inflammation, that we might follow her ſteps; and this

* Chap. 6 & 7. † Cullen, vol. i. ſect. 254.
§ Lib. ii. epiſt. 21. art. 28 & 29.

will

will be found, never to be by deſtroying life, when ſhe is capable of effecting her purpoſe by reſtoring health. Even in a gangrene, the inflammation is not ſtopped, but ſpread by the ſucceeding mortification, till nature interferes, and ſtops it by ſeparating the dead and living parts. If this does not happen, it never terminates till death cloſes the ſcene. The ſame may be ſaid of the inſtance referred to, which no way proves, that the inflammation of the lungs would have ſubſided in conſequence of the extravaſation; becauſe in all the diſſections, the patient was killed by it, before the inflammation terminated.

The queſtion is, whether in conſequence of the extravaſation, the inflammation would have ſubſided if death had not taken place, ſuppoſing an irritating cauſe to exiſt in the lungs?

To

To which we anſwer, certainly not. For inflammation does not reſide wholly in the blood; and daily experience proves that it cannot be ſubdued till the affected parts are rendered inſenſible to irritation, or till the irritating cauſe is removed. Did ever any one ſee an effuſion of a portion of the entire maſs of blood into the cellular membrane, in any other part of the body remove inflammation? I muſt confeſs I have not; and had it ever happened, it would ſurely have been noticed by ſome of the numerous practical writers on this ſubject: which induced me to reject, what has been ſaid about this kind of termination of inflammation, as no wiſe appoſite to our inquiry.

It is imagined, our "chief dependence "is upon Haller's experiments, reſpecting "the want of irritability in the arteries," which it is ſaid, "have been repeated with very different ſucceſs, by

" Monro and de Haen." It is confeſſed however, " that whether the coats of the " arteries contract by a muſcular power, " or their elaſticity, cannot at preſent be " determined. But it is alleged, that " the experiments we made are incon- " cluſive, becauſe they are contradicted " by Dr. Hales in his Hæmaſtaticks; and " becauſe if the arteries act by a muſcular " power, they muſt contract like hollow " muſcles, which have no fulcrum, and " conſequently when their continuity is " deſtroyed, all their action at the divided " part will ceaſe. Even Haller, the great " ſupporter of this doctrine, is almoſt " compelled, from the force of evidence, " to allow the contractility of arteries, " and in his later works, complains of un- " fairneſs in his enemies, who repreſent " him as denying the muſcular power of " arteries in general, when he ſpoke only " of the ſmaller ones."

Now,

Now, we are always willing with eagerneſs to accord with truth, but we pin our faith upon no man's ſleeve; we therefore did not depend altogether upon Haller, in what is ſaid about irritability in the arteries, but upon the facts adduced *, and by drawing out bare arteries with a tenaculum, tying them with thread, and ſeeing that they have no more feeling than a bone. We oppoſe Dr. Hales with the more *accurate inveſtigator*, Haller †, who repeatedly aſſerts, that the arterial blood is not accelerated by the impulſe of the heart, while its motion is briſk; and we believe what he ſays, *becauſe we know it to be true.*

And is not this doctrine abundantly confirmed by the accurate obſervations of Spallanzani, the Pavian profeſſor, who attributes the motion of the blood to the

* P. 277, vol. i. † 2d. Diſſert. on the Motion of the Blood, Exper. 85, and ſeveral other places.

heart alone, and allows nothing to the contraction of the veſſels, or any other co-operating cauſe. He ſays, in the part contiguous to the heart, the motion of the blood was unequal during the time of the diaſtole; but this alternate ſtagnation became gradually leſs diſtinct, as the diſtance from the heart increaſed, and toward the more remote region of the aorta, totally diſappeared. In the arteries of a middle ſize, ſuch as the pulmonary and meſenteric, the motion of the vital fluid is quite regular and uniform.

The inequality in the motion of the blood in the animals on which Dr. Hales's experiments were made *, was confeſſedly owing to their violent ſtraining to get looſe, &c. and we know this will always happen from the ſame cauſe, or when, from loſs of blood, there is not

* Stat. Eſſ. vol. ii. Exper. 1ſt. & ſeq.

a ſuf-

a ſufficient quantity in the veſſels to keep a regular ſtream. The blood in the ſmall collateral arteries too, will ſometimes be diſcharged *per ſaltum*, agreeing with the contraction of the heart, where it has an angle to paſs, and meets with reſiſtance. But when the large arteries are divided, where the action of the heart is vigorous, and the animal quiet, it is diſcharged in the manner deſcribed. Nor can I conceive a juſter compariſon than that which has already been made, of the engine conſtructed to extinguiſh fire.

If it is uncertain whether the coats of the arteries have a muſcular power, there is no certainty of this power propping up the old ſyſtem. It ſhould have been obſerved, that our experiments were not confined to divided arteries only, but extended to thoſe which were laid bare, without a diviſion; and what is curious enough, inſtead of motion being deſtroyed

by diviſion, there was none to be ſeen in the carotid arteries till a diviſion had taken place, and then their projectile motion was very evident.

As Haller could not obſerve any contraction in the arteries, upon examining the circulation, and finding them not always cloſed in dead animals, he haſtily concluded, that they were void of contractility; and thus led himſelf into difficulties: for thoſe who oppoſed him, ſhewed that upon dividing an artery, it contracts ſo as to become impervious. Hence they imagined, the whole of his obſervations were erroneous, and by thus drawing wrong concluſions, from theſe premiſes, the ſubject became confuſed. But the truth ſeems to lie betwixt both opinions. The large arteries, ſuch as the aorta, I believe never do cloſe themſelves, from their connection and ſituation; nevertheleſs, this ſyſtem of veſſels have a conſtant tendency

tendency to contract, by an elaſtic power they poſſeſs, as is evident from their adapting themſelves, when divided, as the blood diminiſhes, to the quantity remaining in the veſſels*; and from their cloſing up in living animals, when the blood ceaſes to move through them; as we have ſeveral years ſince proved, in an eſſay on hæmorrhages from divided arteries. But that they have neither ſyſtole nor diaſtole, during the circulation, is equally evident; and the very experiments which were brought to confute Haller, tend to confirm his obſervations. For the contractile power his opponents diſcovered, being made by a ſubſtance reſembling elaſtic ligaments, inſtead of muſcular fibres, it conſtantly prevents the ſides of the arteries from giving way to, or being dilated by, the motion of the blood, except in thoſe inſtances of which

* See Addenda, vol. i. p. 310.

we have already ſpoken*. Beſides, a muſcular fibre contracts only while it is ſtimulated; of courſe it will ceaſe to act when the ſtimulus ceaſeth (witneſs the heart), and were the coats of an artery compoſed of muſcular fibres, they would not act longer than the blood moves through them; but the contrary happens.

We have already ſhewn the analogy betwixt elaſtic ligaments and the coats of the arteries, and that they preſerve their elaſticity after death†; as will evidently appear by taking the aorta of an ox, and ſtretching it lengthways, the manner in which it naturally moves when living; for it will at once ſhew that it has exactly ſimilar powers with the elaſtic ligament in the necks of brutes, whereas the muſcles when dead, are incapable of being lengthened or moved by ſtretching, without

* See Addenda, vol. i. p. 310, 311. † Inflam. in general, p. 259.

tearing

tearing to pieces: nor is it poſſible to put them into any ſort of motion, becauſe the ſentient principle of the brain, which governs and makes part of a muſcular fibre, vaniſhes with life. But arteries preſerve their action after the living principle has left them, becauſe death does not deſtroy their elaſtic property till putrefaction takes place. The arteries are kept from cloſing in a living body, by the motion of the blood, and by their connection with the adjacent parts; as is evident, from their contracting after being divided, when the motion of the blood through them is ſuppreſſed. The latter of theſe cauſes prevents their becoming impervious after death, and they now ſink, like all other elaſtic ſubſtances in animal bodies, into a ſtate of reſt, till put into motion by art. But though we are ſo firmly perſuaded, that there is nothing muſcular in the coats of an artery, and that like the bones,

bones, tendons, &c. they are incapable of being irritated in a ſound ſtate; yet we know, that, like thoſe ſubſtances, they poſſeſs nerves, and imagine there is a material difference, in the contractile power of a living and dead artery. But that the coats of an artery and muſcular fibres are very diſtinct, and different ſubſtances, is to me ſufficiently evident; and I doubt not will be ſo to others, when viewed in the light we have attempted to give.

There are writers before Haller, who caſually mention, that the arteries have neither ſyſtole nor diaſtole; but they were unnoticed. Even his experiments were not rightly underſtood, either by himſelf or others; and have not therefore been attended to, in the manner they deſerve. The facts however recorded by him perfectly correſpond with thoſe we have obſerved, and are alone fully ſufficient to eſ-

tabliſh

tabliſh the doctrine advanced. But I refer again to experiment. We muſt begin *de novo*; old notions will not aſſiſt us, and when the ſubject is handled by men who are not ſlaves to preconceived opinions, there will be no difficulty in finding out truth; for it is in this inſtance as clear as the ſun at noon-day. The abſence of a ſyſtole and diaſtole in the arteries, is one of thoſe facts in nature, which, when once aſcertained, will make its own way; and it is idleneſs to diſpute about what we may any day be convinced of, by ocular demonſtration, without the leaſt cruelty, in animals deſtined to ſlaughter. There is no other way of ſettling the point, and we ſhall be juſtified in concluding, that thoſe who talk upon the ſubject, without thus informing themſelves, are either lazy or fearful of facing truth.

An

An opinion alſo prevails, "that we op-
"poſe Dr. Cullen's theory of inflamma-
"tion without ſucceſs; and that we chiefly
"fail, where we endeavour to prove, that
"no obſtruction exiſts in inflammation."
But thoſe who pleaſe to compare the quo-
tation from Dr. Cullen, p. 247, with what
is ſaid p. 254, & ſeq. in the former
volume, will immediately diſcover whether
this opinion is well founded. We are
rather ſurpriſed that men of ſenſe, who
have had time to ſhake off the fetters of
authority, ſhould favour a doctrine founded
in conjecture, and raiſed into ſyſtem, with-
out one real fact to ſupport it: and though
the ſentiments of this writer deſerve the
moſt reſpectable attention, becauſe he has
thought much, with the power of think-
ing, yet when he has recourſe to imagi-
nation we muſt attend him with caution,

becauſe

becauſe this mode of aſſigning cauſes, has never yet ſtood the teſt of inquiry*.

It muſt be remembered, that one main point of our intended inſtitution, is that a medico-chirurgical phyſician, ſhould underſtand his profeſſion thoroughly. Others are of a different opinion, and we cannot therefore diſmiſs this article, without entering a caveat againſt a preference which has been ſince given to general knowledge; becauſe all general knowledge is allowed by men of the beſt underſtanding to be ſuperficial. It is the ſhadow of knowledge only, being acquired, "by ſkimming over the ſurface of ſcience," and fit for no other purpoſe than deception. Though a phyſician may be ſatisfied, "with a general comprehenſive knowledge, both of the ſurgeon and apothecary's art, if he is occaſionally inſtructed

* Witneſs Boerhaave.

"by

" by them, in thoſe circumſtances, which " are dictated in conſtant experience, and " more frequent examination;" yet—what may be the fate of the poor patient, ſhould theſe aſſiſtants prove inadequate to the taſk of inſtructing their pupil the doctor?

PART THE SECOND.

I Wiſh alſo to ſee what I have ſaid about the nervous fluid canvaſſed, becauſe the ſubject ſeems not yet to be generally underſtood: for it is imagined by another writer, " that no phyſiologiſt, has attri- " buted any of the particular functions " of the nerves, to the fluid we meet with " in diſſecting the brain;" and it is ſaid, " certainly Boerhaave to whom Dr. K. " refers, did not mean this by the nervous " fluid *." And yet this ſaid Boerhaave

* Monthly Rev. Nov. 1783.

teaches,

teaches *, "that the juice or ſpirit of the "brain and nerves," (which he alſo calls a lymphatic juice, and nervous fluid,) "always appears within the medullary "part of the brain in diſſections, manifeſt "not only to the eye, eſpecially when "aſſiſted with a microſcope, and which "juice is often found in a much increaſed "quantity in moſt diſeaſed brains, and "imagines from the parts it paſſes through, "that it is the moſt ſubtle juice of any in "the whole body, which being ſeparated "in the moſt wonderful fabric of the "*cortex*, is thence propelled from every "point, through pervious tubes, into the "medulla oblongata, and there collect-"ed."

Again, in his comment on the ſame ſection, he ſays, "I have frequently ob-"ſerved, by dividing the medulla oblon-

* Inſtit. ſect. 274 & ſeq.

"gata,

" gata, with a very ſharp razor, and then " inſpecting with a microſcope, little drops " of moiſture tranſuding like dew, which " preſently exhale and dry up, or if you " wipe or ſcrape them off, they are pre- " ſently again renewed :" whence from experiments made by evaporation *, and the celerity with which he *ſuppoſes* it to act upon the nerves and muſcles, he concludes, that its component particles, are the moſt ſimple, denſe, or firm, ſubtle and moveable of any animal juice. That the *tubuli* of the nerves, continually receive this juice of the *medulla*, and tranſmit the ſame by very diſtinct paſſages, to every individual part in the whole body ; and that by the conveyance of this juice only, they perform all the actions and uſes of nerves.

Surely he labours much in every page, *De ſpiritu cerebri, et de nervis*, to inculcate

* Lor. cit.

this

this opinion, and expreſsly ſays, *Duæ opiniones, noſtris temporibus, ſuffragia hominum patiuntur. Alii nempe, liquidum aliquod per nervos ferri, & ſenſuum motumque, cauſam eſſe perſuaſi ſunt, quæ noſtra eſt opinio.* He reprobates the other opinion, of the nerves acting by vibration, and maintains, that it is impoſſible any of their effects ſhould be produced by motion in themſelves; "but the "juice ſpoken of, is obedient to the "will, for the nervous *tubuli* being full "of it, an impulſe communicated to it "at one end of the tube, will thruſt out "its globules at the other, in the very "ſame inſtant of time. This we know "by placing a row of ivory balls, cloſe to "each other upon a table; for then by "ſtriking upon the outermoſt ball at "one end, the furthermoſt at the other "end will inſtantly recede or run off "with the velocity firſt communicated,

" without any ſenſible ſucceſſion through " the intermediate balls. And if a tube " be full of liquor, you no ſooner urge " more in at one end, but it inſtantly " runs out at the other." * And has not Haller too, in his Phyſiology, Lect. VII. Sect. 390, told us that the nerves perform their office by the motion of their juice? From all which it ſeems to be evident, that though Boerhaave *ſuppoſed* this juice to be a ſpirit endowed with peculiar properties, and talked much to no ſort of purpoſe, about its inviſible motion; yet it is the juice he diſcovered, in diſſecting the brain, and the very fluid we deſcribed: and we are the more ſurpriſed at this opinion not being generally known, becauſe ſo late a writer as Fordyce * in ſpeaking of the different opinions concerning the manner in which the muſcular fibres are put into motion, ſays, " It

* Elem. Pract. of Phys. on Mobility and Irritability.

has

" has been conjectured by ſome, that the " motion was communicated by a fluid, " flowing through the nerves as tubes." This account, I am fearful, will ſeem tedious, to a reader already acquainted with it, but I was in fact called upon to ſhew, that I had not made an ungrounded, haſty, aſſertion *; and though we agreed with Boerhaave, in there being a nervous fluid, becauſe we have often ſeen it, yet we no way accorded with him in opinion about its uſe; well knowing it was imaginary, unſupported by facts, and calculated to maintain a ſpeculative theory. It was called a nervous fluid, that it might not be confounded with common lymph, becauſe it is ſecreted in, and properly belongs to the brain, and becauſe it contains leſs groſs parts, than other lymph; owing perhaps to its paſſing through finer ſtrainers. But whatever may be its na-

* See p. 133, 1ſt. vol.

ture, it is ſhewn that it is as immediately neceſſary to the life of the animal, as blood itſelf.

It is ſaid indeed, in oppoſition to the arguments adduced on this head, "that "the ſpeedy death following the diſ- "charge of this lymphatic ſerum, in the "*ſpina biſida*, is no proof of its being eſ- "ſentially neceſſary to life. It rather "proceeds, from the admiſſion of air to "the ſpinal marrow; and the ſame e- "vent has always followed all attempts, "to draw off the accumulated fluid in "the external hydrocephalus, though "this fluid has never been ſuppoſed dif- "ferent from other dropſical collec- "tions."

Now we pay very little regard to ſup- poſition, and notwithſtanding Tulpius *

‡ Cap. 29. lib. 3. This probably was the firſt opinion which preſented itſelf to his mind, and it ſeems ſince to have been copied without an opportunity of knowing whether it was true or falſe.

ſays,

ſays, *Tum ob denudatos nervos, per tumorem paſſim diſperſios, quos circumfluus aer, adeo immutaverat, ut non licuerit infanti vitam prorogare, ultra diem tertium*; and Morgagni * in his account of this matter, adopts the ſame opinion: yet we beg leave to diſſent from it, becauſe we believe, there is no inſtance upon record, which proves that the air, coming to the ſpinal marrow, ever killed the patient in three days; and becauſe we have known the evacuation of the contents of theſe tumours, occaſion death, without any poſſibility of the air getting admittance. In particular, I have ſeen two of them upon the *loins*, in which the almoſt tranſparent fluid, was only covered with the pia mater. One of theſe, was a patient of my friend Mr. Dalby of Kegworth, in which there was neither rupture or opening in the tumour, but a

* Obſerv. vii.

conſtant exudation that wet two double cloths in a day, terminated after ſome time in the death of the infant. The other lived near this place, and a kind of fiſſure ſuffered the fluid to eſcape, but the membrane ſubſiding, prevented the entrance of the air, and yet the child died in a few days. Does not Ruyſch * tell us, that though the fluid is diſcharged by pricking with a needle, yet death is ſpeedily the conſequence, and could the admiſſion of air in ſuch inſtances, poſſibly take place?

Beſide, we have ſeveral times known the air to have free admiſſion to the ſpinal marrow, in carious ulcers of the ſpine, and to the brain in injuries of that ſubſtance, without any remarkable effect; becauſe in the former inſtance, the patients ſurvived a great length of time, and in the latter I have ſeen them reco-

* Ob. 34.

ver,

ver, though the air at each dreſſing, might get into a conſiderable portion of a lacerated brain, with the ſame eaſe, that it comes in contact with a common ſore. And it may be obſerved, that it is not merely air, but the air of hoſpitals, &c. which is ſo injurious in fractures of the ſkull.

If by external hydrocephalus, is meant the watery tumor upon the head of new born children, it is the ſame diſeaſe, as the tumor accompanying the *biſid ſpine*. Of courſe the ſame event will follow drawing off the accumulated fluid. They take their riſe from the brain, or ſpinal marrow, and are contained within the membranes, that naturally inveſt the *cerebrum*, *cerebellum*, and *medulla ſpinalis*. And though Ruyſch called it a dropſy in the ſpinal marrow *, or of the brain, when diſeaſed, and ſaid it was nothing more than

* Loc. cit.

a preternatural expanſion of the membranes which cover the medulla ſpinalis, diſtended by a great quantity of ſerous humor †; it ſurely does not follow, that a dropſy of the brain, or of the ſpinal marrow, is of the ſame nature as an hydrocele, aſcites, or other dropſical ſwellings. Mr. Warner ‡ more judiciouſly obſerves, that theſe tumors are to be diſtinguiſhed from all other, by their riſe, ſituation, the circumſtances of their being always born with the ſubject, who is generally afflicted with a partial palſy, and by their contents which are fluid and commonly tranſparent. There is no doubt, but a difference ought to be made, betwixt theſe and other watery tumors; and I am perſuaded intirely omitting the diſtinctions the ancients made in hydrocephali || has been injurious to ſcience, by confounding one diſeaſe with another.

† Ob. 36 ‡ Caſe 17. || Fabricius, cap. VII. they are collected together in a ſhort compaſs.

One

One kind of hydrocephalus, is formed betwixt the cranium and *dura mater*, another betwixt the *dura* and *pia mater*, a third in the ventricles of the brain, a fourth is an hydatid betwixt the ventricles, and the fifth is that of which we have been treating. The two firſt may be conſidered in the light of other dropſical ſwellings, and I apprehend, the caſes Morgagni deſcribes, in the ninth article of the twelfth chapter, in his firſt book, were of this ſort; becauſe diſcharging the water by inciſion, cured one of the children, the other was relieved for a time, and there are ſimilar inſtances to be met with upon record.

I have ſeen a watery tumor of this kind, on the outſide of the head which took its riſe inwardly.

A youth then eight or ten years of age, had always been an idiot, and the tumor had broken two or three times before I ſaw

ſaw him; but this event happening again while he was under my care, with the reſt of the poor of the pariſh, I ſaw it aroſe from water, rather of a muddy colour, making its way out of the ſcull, betwixt the *ſutures:* and though the greatly diſtended ſcalp, diſcharged more than a pint of fluid, and continued to run for a month, or ſix weeks, it healed up. But a freſh ſwelling ſoon began to ariſe, and in a year's time, became very large, the poor boy ſeemed to undergo great uneaſineſs, and it was therefore opened again, with the point of a lancet, and diſcharged the ſame kind of fluid with relief. Afterwards in the ſpace of a year or two, it was opened twice more, before death put an end to his ſufferings; but I had not an opportunity of opening the head, not knowing when this event happened.

From the whole, it ſeems evident, that thoſe

thoſe who ſuppoſe, the fluid contained in the tumor, accompanying the *bifid ſpine*, to be ſimilar to dropſical ſwellings, are miſtaken; becauſe the evacuation of their contents, is attended with different events, and becauſe the fluid in the external *hydrocephalus*, or collected upon the ſpine of new-born children, comes immediately from the medullary part of the brain, which never happens in common dropſical ſwellings.

This fluid is the only one, which enters the ſubſtance of the brain, and muſt be without doubt its proper and only food. Nor do we give up the idea of its being ordained for more purpoſes than one, * as happens in ſeveral inſtances, in the animal economy, eſpecially in the blood, which feeds the muſcles, &c. and occaſions the contraction of the heart. But leaving uncertainty, and

* P. 169, Vol. 1ſt.

conſidering

conſidering it in no other light, than the food of the nerves, we cannot avoid ſtill continuing in opinion, that it is eſſentially neceſſary to life.

Internal hydrocephali, are foreign to our preſent ſubject, and we ſhall only obſerve, that it would have been needleſs to have entered into this diſcuſſion, did it not lead to practice in injuries of the brain, which may often preſerve the life of the patient. For the nervous fluid diſcharged from wounds of that ſubſtance, I am perſuaded, often produces the ſame effect, as when diſcharged from the bifid ſpine, if ſuffered to continue any length of time; and that ſuppreſſing of it, by medicaments, ſometimes prevents a fatal termination of the malady by a general palſy, * which happens from the brain, being exhauſted ſooner or later, in proportion to the violence of the diſcharge.

* See Injuries of the Brain.

It

It is thought alſo that I have done wrong, in taking cognizance of the *ſcarlatina anginoſa*, and the gout, and rheumatiſm, in a book on medical ſurgery. But thoſe who are in this way of thinking, will pleaſe to remember, the mode of education recommended, the qualifications of thoſe who are intended to ſuperviſe this buſineſs *, and that we had an eye to ſcience, inſtead of the emolument of individuals. For though medicine may be divided in a trading way, yet as a ſcience no diviſion can take place. And notwithſtanding, the various nick names† which have been given to the former of theſe complaints, it is ſtrictly an eryſipelas, ariſing from contagion. The chapter would have been incomplete without it, nor in my opinion can the diſeaſe be viewed in any other

* See Introduction, note p. 72. and 73.

† Eryſipelatous ſore throat muſt be excepted.

light,

light, to be underſtood; for the appellations commonly uſed to diſtinguiſh it, deſcribe ſome of the ſymptoms, inſtead of the diſeaſe * itſelf. Whereas the name we have given, immediately conveys to us the nature, and leads to the cure, of the complaint.

In ſpeaking of the cure of inflammation by diſcuſſion, it was impoſſible to overlook the gout and rheumatiſm, whether they were within the limits of medical ſurgery or not; becauſe, it is their natural way of terminating. But Celſus, who is our director in this inſtance, places all external diſorders, though they take their riſe inwardly, in that branch of medicine, which depends upon medicaments, or what we have called medical ſurgery. The lumbar abſceſs, no ſooner ſhews itſelf in the groin, or thigh, than it comes within the ſurgeon's province.

* They are collected together in Fothergill's laſt Edit.

The

The ſame may be ſaid of the liver, &c. which ſuppurates, and breaks outwardly; and the gout * and rheumatiſm being attended with external inflammation, and tumor, are certainly within the cognizance of thoſe, whoſe buſineſs it is, to cure external complaints; eſpecially as ulcers are not unfrequent, where chalk ſtones are formed. I am firmly perſuaded, external applications will be of more uſe in this diſeaſe, when properly choſen, than has been imagined. In the rheumatiſm too they are often of great ſervice, but ſhould the attendant be ignorant of the nature of the diſeaſe, he will be equally unknowing in the choice of the remedy.

The nervous rheumatiſm, is the moſt exceptionable in the arrangement we have made; but the doctrine being per-

* Parry may be pleaded as a precedent ſince the Greek diviſion.

fectly

fectly new, I was desirous of taking that opportunity, of offering it to the notice of the faculty, as I shall not have any other so proper for the purpose. Besides, as a medical surgeon may often be consulted about pains in the hips, knees, or wrists, surely he ought to be acquainted with every cause from whence they may proceed. The more we look into these things, the more clearly shall we see, the close connection between external, and internal disorders: and what has been said, it is hoped will be a sufficient apology, for attempting to brush off a little dust that had fallen upon, and tended to obscure what I have already written.

CHAP. I.

ON PHLEGMONE AND ABSCESS.

HAVING treated of thoſe inflammations which naturally terminate by diſcuſſion, order requires us next to diſcourſe of thoſe, which end in ſuppuration. For this purpoſe we may obſerve that the Greeks uſed the word φλεγμονη * to ſignify inflammation in general, but after particular inflammations acquired particular names, it was often employed to diſtinguiſh that kind, which they ſuppoſed contained more heat or fire, as ariſing from pure blood, and terminating in ſuppuration; which was extending it beyond its original meaning. Inflammation and ſuppuration it is well known are different things, and notwithſtanding

Phlegmone, what.

* See Chap. I. V. I.

the perplexity we meet with, in ſome modern noſologiſts *, it can be underſtood in no other ſenſe, than the general before name for inflammation, of any kind, or in any part of the body.

We muſt alſo remember, that the Greeks uſed the word αποστημα, *abſceſſus*, *ab* αφιςαμαι, *abſcedo* to depart) in medicine, to ſignify a ſeparation by diſeaſe, of the parts of the body, which cohered together. Accordingly Hippocrates ſays επι ςφακελισμιυ αποςασις οςεε †, from a ſphacelus ariſes an abſceſs, or a ſeparation of the bone; and in gatherings behind the ears, where the parts were ſeparated by a collection of matter, he uſed the ſame term, which Galen in his chapter on abſceſſes, clearly explains. He ſays, " Abſceſſes are thoſe

Abſceſs what.

* Linnæas muſt be excepted, though he is wrong in confining it to the external parts.

† Aphor 77 Sect. 7. He muſt mean where the bone was affected.

" diſor-

" diſorders in which the parts of the " body before cohering, recede from each " other. There muſt of neceſſity be a " void ſpace, which will contain either " a moiſture or flatus, or a compoſition " of both §." In another place, he obſerves, " An abſceſs *(ſive αποστημα)* " ſo called, is a conflux of blood in the " middle of any vacuity, ſo long as no " opening or eruption happens, in its " external ſuperficies," which if we change the word blood, to *ſerum* or *pus*, agrees with the modern definition. Indeed the Baron Van Swieten, imagined the ancient phyſicians, uſed the words *apoſtaſis* and *apoſtema*, in various ſenſes; becauſe Hippocrates employed it, to denote the change of one diſeaſe into another, when he ſays, *ex aliis febribus & morbis, abſceſſus in quartanas fiebant:* but does

* De art. ad. Glau. lib. ii. cap. vi.

† Com. in Hip. lib. de offici. cap. xxvi.

not he in this inſtance, adhere to the common meaning? For the word abſceſs ſeems intended to ſignify a ſeparation, or what we call an intermiſſion in the fit; and it is very evident, this word had but one ſignification, when we call to mind, that even aſtronomers, by *abſceſſus ſolis*, meant the ſun's declination, or his departure ſouthward.

Beſides theſe, there were ſeveral other tumors called abſceſſes, both by the Greeks * and Latins † ſuch as the *meliceres, ſteatoma, atheroma*, &c. becauſe the parts which before naturally cohered together, are ſeparated by an intervening ſubſtance; and we ſhall hereafter have occaſion to take notice of lymphatic and gelatinous abſceſſes, &c. but the ſpecies which at preſent claims our attention, is the *purulent abſceſs*: and we apprehend this appellation, characteriſes the diſeaſe in queſtion, without confuſion.

* Paulus and others. † Celſus.

CHAP. II.

ON PURULENCY.

IT ſeems to be an incontrovertible axiom, that *ſerum* is never changed into *pus*, unleſs it is extravaſated *. But to have a clear idea of ſuppuration, we muſt begin with viewing the moſt ſimple proceſs of this kind, and after all that has been lately ſaid upon the ſubject, we ſhall diſcover, that it is nothing more, than a collection of ſerum, or mucus, *evaporated* to a certain thickneſs, as the Baron Van Swieten †, has already taught; and that the admixture of other ſubſtances by diſſolution, only forms matter of different kinds. Pus, what.

* Chap. 3d. Vol. 1ſt. † Com. ſect. 158, art. 7.

The Baron in ſpeaking of the formation of pus in wounds, juſtly obſerves, "That it is not formed within, but out "of the veſſels in the cavity of the wound, "from the juices there extravaſated, be- "ing digeſted by the heat of the body. How formed. "For if all the matter be cleanſed from the "ſurface of a wound with ſoft lint, with- "in an hour afterwards, it will appear all "over beſet with a thin liquor, inſtead of "matter; but when the wound has "been covered with a plaiſter, for four "and twenty hours, upon removing the "dreſſings plenty of matter appears." Sir John Pringle obſerves *, "that the "ſerum of the human blood, upon ſtand- "ing but a little time in the furnace, be- "comes turbid, and gradually drops a "ſediment reſembling well digeſted mat- "ter;" and therefore concludes, "That "the ſerum is continually oozing into

* Ob. p. 383, paper 7.

"all

" all ulcers, but from the heat of the " the part, and the natural volatility of " animal fluids, it is all quickly evapo- " rated, excepting this ſediment, which " remains in the ſore in the form of " pus." GABER has made ſimilar experiments, with the ſame ſucceſs; but concluſions drawn from chemical experiments alone, are nowiſe to be depended upon, as demonſtratives of any proceſs in the animal œconomy; nor is chemiſtry neceſſary to ſettle this matter, as practical obſervations in ſurgery, may daily afford fuller conviction. The matter in the ſmall pox puſtules, that found in the large natural cavities of the body, and what is called inflammatory exudation, are full evidence. Every one knows the fluid in the ſmall pox, is expelled in a limpid ſtate, and forms pus afterwards, by ſtagnating betwixt the cuticle and ſkin; and can there be any doubt, that the large

quantity of matter, ſo often found in the cheſt, &c. without any viſible ulceration, or breach in the adjacent parts, is owing to the unuſual ſecretion of ſerum, in conſequence of irritation, and to its being converted afterwards into thicker or thinner pus, according to the degree of abſorption, or evaporation, that has taken place? Nor have thoſe, who ſuppoſe the veſſels themſelves, from diſeaſe, to have a power of changing the lymph they ſecrete into pus, overturned this opinion, if there is any dependance upon plain ſimple facts, which daily preſent themſelves in the practice of ſurgery, ſupporting the opinion of pus being formed of ſerum, after it is extravaſated.

Some have ſuppoſed, that pus of all kinds is produced, or preceded by inflammation; and we know that in thoſe habits, where the heat of the body is below the natural ſtandard, abſceſſes are

filled

filled with poor thin matter, for want of warmth to thicken it; and that upon their being opened, air getting admittance, and being confined, inflammatory heat comes on, and pus is formed. On the other hand we have often ſeen tolerable good matter formed in abſceſſes, without any previous inflammation, fever, or pain, where the degree of heat in the body was about natural; and when inflammation occaſions heat and obſtruction, beyond a certain degree, the formation of pus is prevented, by converting the ſtagnating juices, into an ichor. In the ulcer immediately following a wound, good pus is never formed till the inflammation intirely diſappears, the new fleſh begins to riſe, and the part acquires its natural heat. Wherefore, though we allow, that ſuppuration moſtly accompanies, or is ſubſequent to a certain degree of inflammation, yet as we daily ſee in recent ulcers,

good

good matter formed without preternatural heat or inflammation, we think the natural heat of the body, in a good ſound conſtitution, is fully ſufficient for the purpoſe of evaporating the more volatile parts, and giving to matter its proper conſiſtence, notwithſtanding it may be thickened quicker, if a ſomewhat greater heat prevails.

What heat neceſſary.

Blood and fleſh not converted into pus.

It was long an opinion, that blood and fleſh, were converted into pus in wounds; but experiments have taught us, that this opinion is ill founded. Blood ſtagnating in contuſed wounds, into which the air gets admittance, becomes a putrid gore. If either blood or fleſh, be covered in an healthy ulcer, immediately following a wound, and diſſolved in good matter, the matter is changed from purity, and becomes more or leſs offenſive. While a wound is in a crude ſtate, the matter is fœtid, becauſe the ends of the fibres diſſolve, and render the diſcharge ſomewhat

ſomewhat putrid; but no ſooner is this corrupted fleſh cleared away, than ſimple lymph, by inſpiſſation convinces us in what manner true pus is formed.

But though blood or fleſh occaſions a degeneracy, when diſſolved in good matter, yet fat or oil being diſſolved by ſerum, make very little difference from pus, formed by evaporation; for the pus in common abſceſſes, ſeems to riſe in conſequence of a ſecretion by the lateral lymphatics, of ſerum, being lodged in the cellular membrane, which diſſolves the neighbouring fat, and oil, and forms an homogeneous mixture; unleſs membranes, &c. happen to undergo a diſſolution, and then it degenerates, and occaſions that fœtid ſmell, we often perceive upon opening theſe tumors. If we paſs a ſeton, it occaſions a greater ſecretion of lymph, pus in the ſame manner is the conſequence, and the ſame may

Fœtid matter how found.

may be ſaid of contuſions, when they end in ſuppuration. Wherefore there are two kinds of matter, the one by evaporation, the other by mixture: that by evaporation is frequently ropy, or tenacious, eſpecially when made of mucus, unleſs acrimony interferes; whereas that by mixture, is always deſtitute of coheſion. * Pus which is white, ſoft, bland, and

* Phyſicians have long been endeavouring to diſcover from the matter ſpit up by conſumptive perſons in coughing, whether there is any ulcer in the lungs or not; but the taſk is very arduous. Matter formed of inſpiſſated ſerum, or mucus, ſhews its mildneſs by tenacity, but it does not follow that there is no ulcer in the lungs, &c. for this kind of matter is formed both in ulcers, and upon ſurfaces. I have ſeen many die of a true conſumption, who never ſpit any thing elſe than inſpiſſated lymph. Matter ſpit up void of coheſion, is more ſuſpicious, and a breach in the ſolids is to be ſuſpected, but is not to be depended upon; becauſe this alſo is ſometimes formed, without ſolution of continuity. The fate of the patient however, does not altogether depend upon the preſence or abſence of ulcers, but upon the cauſe

and inodorous, ſeems not to poſſeſs any degree of acrimony, as the facility with which ſores heal under ſuch a diſcharge, evinces; and whether the matter in mild abſceſſes is more acrid, may be doubted, becauſe ſerum itſelf has a powerful diſſolving property, without acrimony, and may alone be capable of producing the diſſolution we find in theſe tumors. But though pure *pus* be very mild, it is certain, though contrary to ſome late opinions, that the matter both in ulcers and abſceſſes, is often more or leſs acrid; as we ſhall hereafter have occaſion to obſerve, from its effects upon ſores, and upon the conſtitution.

Laudable pus.

cauſe which occaſioned them; for we very well know, that ulcers of the lungs diſcharging pus, which ariſe from a vomica following a peripneumony, or from a wound, &c. heal frequently without much trouble; whereas thoſe which are brought on by a ſchrophulous taint, always terminate ſooner or later in death; becauſe not only the lungs, but the whole body ſhares in the original diſeaſe, and muſt be changed to perform a cure.

CHAP.

CHAP. III.

ON PURULENT ABSCESSES.

EVERY inflammation of the cellular membrane, is accompanied with a ſimple inflammation of the ſkin, occaſioned by the fluid underneath, irritating the nerves which terminate in the ſuperfices of the body, in proportion to the degree of irritability, and the power of the irritating cauſe; and accumulation of heat, redneſs, tumor, and pain, are the conſequences. According as the cellular membrane, the ſeat of abſceſſes, is loaded, and thickened, the ſkin is elevated more or leſs, into a conical form, and a pulſation is ſometimes felt, from the circulation of the blood through the arteries being interrupted, in part, in its paſſage

Seat of abſceſſes.

Symptoms.

paſſage to the veins: and whenever a ſimple inflammation of the ſkin, and thickening of the cellular ſubſtance are united, a purulent abſceſs may be expected to be forming; becauſe excepting accidents, nothing but matter capable of irritating, could produce both theſe effects at the ſame time, as wens, &c. demonſtrate.

Plain however, as theſe marks point out the nature and ſeat of the diſeaſe, writers have directed the ſame treatment to be purſued in the beginning of this tumor, as in an eryſipelas, or a ſimple inflammation of the ſkin. But the queſtion is, whether diſperſion ought in this caſe to be attempted or not? An eryſipelas, or a ſimple inflammation of the ſkin, we ſee muſt either terminate by diſperſion, or mortification; becauſe, the accumulated fluids are not extravaſated. There cannot therefore be any doubt, about the method which ought to be purſued

purſued, eſpecially as by imitating nature where a *metaſtaſis* has happened, we finiſh the work ſhe has begun, by diſcharging outwardly offending matter, immediately from the veſſels in which it lodged; * and this experience teaches may be ſafely, and readily done. If nature be left to herſelf in the inſtance before us, ſuppuration for the moſt part happens; and can an attempt to ſuppreſs in general be right, whenever the offending matter is ſeparated from the blood? To diſperſe the ſwellings in this inſtance is to *return* crude matter into the blood; for we are to remember, that being extravaſated into, and depoſited in the cellular membrane, it cannot, as in a ſimple inflammation, be diſcharged by the veſſels of the ſkin; but that abſorption muſt firſt be promoted, and the noxious humor, again be mixed with the circulating juices, before it can be entirely re-

Critical abſorption not to be repelled.

* See Simp. Inflam of the ſkin and Eryſipelas.

moved

moved. Hence dreadful conſequences may ariſe, and we ought, I think, to reprobate the doctrine which teaches, "That "the method of curing every inflamma- "tion by reſolution, is of all others the "beſt; that the matter of the diſeaſe, is "ſo ſcattered by the *vis vitæ*, and pro- "per remedies, that it becomes very "much like the healthy humors, with "which it flows through all the veſſels, "without injury to any of the functions." All this I firmly believe is nothing more than ſpeculative theory; for though we know that mild good matter in ripe abſceſſes, will ſometimes be abſorbed, and paſs out of the body, without injury; yet we are equally certain, that morbid crude matter, reſiding in the cellular ſubſtance, in the firſt ſtage of an abſceſs, is exceedingly active, apt, like the ſyphilis, to reſt in the lymphatic ſyſtem; and though it does not always bring on its

effects immediately, yet it will often be productive of ill conſequences, notwithſtanding the uſe of purges, diuretics, &c. which not having an elective property, cannot prevent its doing injury. Indeed, there may be particular inſtances in vital parts, where a large tumor, though ſeated outwardly, would deſtroy the patient before it broke; and where death may be the conſequence of ſuppuration, diſperſion if poſſible ſhould take place. Such caſes have happened within our notice, which we ſhall mention among the following obſervations, intended to illuſtrate what we have been ſaying.

Inſtances. It may be remembered, that we have already mentioned chronic eryſipelata being brought on by diſperſing crude matter from abſceſſes: we ſhall have occaſion to notice the inconvenience, of rubbing in mercurial ointment to diſperſe critical abſceſſes in the glands; and I very well remember

remember, more than thirty years ago, I was called to a woman in this neighbourhood, who after a fever of two or three days, was ſeized with a rigor, and afterwards an inflammation in her hand, betwixt the fore finger and thumb, upon which the fever abated. But the pain from the inflammation becoming violent, the aſſiſtance of a barber ſurgeon was deſired, and many attempts were made to remove the preſent ſymptoms by diſperſion. She was bled and purged, a fomentation, and Bole Armoniac with vinegar were applied to the part, and a delirium was the conſequence. When I firſt ſaw her, the delirium was attended with a tremor, her pulſe was exceedingly weak, her urine came away involuntarily, and death that evening took place; ſeemingly from all power in the nerves being deſtroyed by the matter which was driven inwardly, falling upon this ſyſtem.

On the 5th day of April, a nobleman's daughter * ſix years of age, was ſeized with a fever, and a pain in her head. On the day following, her neck became ſtiff and painful, and on the third day, a tumor appeared on the ſhoulder. On the fourth Dr. Duke was called to her aſſiſtance, and although he imagined the tumor to be critical, yet he ordered the patient to be bled, a clyſter to be given, diſcutients to be applied, and treated the fever with its common remedies.

On the ſeventh day Wiſeman was conſulted, and every thing being reconſidered, they agreed to repeat the revulſive method, that they might carry off the humor, without the tedious, inconvenient work of ſuppuration. Nevertheleſs after two days more, there were ſymptoms of matter being formed, which in due time was diſcharged gradually,

* See Wiſeman's ſurgery, Chap. 3d.

through

through an opening made by a cauſtic, upon the deltoide muſcle.

On the third day after opening the tumor, the matter became thinner, with a fœtor reſembling a dead body, grumous blood was diſcharged from the ulcer, a catarrh, and apthæ came on, the patient died on the twenty firſt day of the diſeaſe." And it is not evident, that nature brought forward her own work, in oppoſition to methods uſed to prevent her, and that the manifeſt putrefaction aroſe, from the abſorption of acrid matter into the blood, which was weakened by evacuation?

A gentlewoman after lying-in, was ſeized with an inflammation in her breaſt, a pultice was applied, and in a few days, there was an evident fluctuation of a ſmall quantity of ſome kind of matter. The tumor not being in a proper ſtate of maturity for opening, the cataplaſm was con-

tinued, but in two days time, abſorption had taken place, the inflammation had ſubſided, and all appearance of ſuppuration was at an end; upon which ſhe took a few doſes of phyſic, and ſeemed to be recovering ſlowly, from her late ſituation. Nevertheleſs, in three weeks time, ſhe was ſeized about noon, with a moſt violent rigor, which ſo greatly affected the nervous ſyſtem, that ſhe almoſt inſtantly became delirious, the common offices of nature, were no longer at the command of the will, and though an eryſipelatous kind of inflammation, again appeared in the breaſt, it could not be made to continue, or anſwer any good purpoſe, and death prevailed in a few days, in oppoſition to every attempt to preſerve life.

In my reflections upon this, and ſimilar inſtances, I have been led to ſuppoſe, that the crude matter which had been abſorbed, fixing itſelf in the habit, brought on

on a very irritable ſtate of the nerves, and perhaps otherwiſe injured them. That the rigor was in conſequence brought on by cauſes elſewhere aſſigned*, and that the injury thus done to the nervous ſyſtem, could not be repaired by nature, aſſiſted by art: for, ſo far as my obſervation goes, in all fevers, where the nerves appear to be chiefly affected, the fate of the patient depends upon the manner of attack; becauſe where the rigor is exceſſive, few only recover, owing perhaps to an extreme degree of irritability of a particular kind, and to the injury ſuch a ſtate of the nerves receive, when affected by any external cauſe, which greatly leſſens their energy; and that abſorbed matter may apparently lie dormant in the habit ſometime, and then ſhew itſelf as has already been obſerved.†

Nor are theſe the only inconveniences,

* See Inflam. 1ſt. Vol.

† Treat. Eryſip. p. 336—376. 1ſt. Vol.

of attempting to diſcuſs tumours of this kind; for the proceſs of nature may be ſtopped, without our being able intirely to remove the diſeaſe from the part. It is probably owing to theſe cauſes, that inflammation neither diſperſes nor ſuppurates kindly, when evácuations, &c. are uſed; and the cure which takes up much time, might have been ſoon accompliſhed, had the officious aſſiſtant been out of the way.

A man was ſuddenly ſeized with an inflammation, accompanied with a thickening of the cellular membrane in the groin. He was bled and purged repeatedly, put upon low diet, and mercurial ointment was rubbed upon the affected part; but though by this means the inflammation was leſſened, and the progreſs of the tumor retarded, it could not not be entirely removed. The ſurgeon therefore changed his ſcheme, but ſuppuration would not come on, under the uſe

of

of ſtimulating cataplaſms, and at a month's end he was reduced to a very weak ſtate, in conſequence of pain, and want of reſt.

To reſtore that ſtrength, which had been ſo unneceſſarily, and unſucceſsfully diminiſhed, the bark was taken two or three times a day; wine was ordered with a more generous diet, and opium was given at bed time; by which means aſſiſted by the application of the emplaſtrum ſticticum * the tumor encreaſed, ſuppurated, and was cured in a ſhort time.

Another man after being ill two or three days, was ſeized with a rigor, which was followed by an inflammation on the inſide of his thigh, a little above the knee. He was bled, purged, and cooling ointments were applied, which leſſened, but did not remove the complaint, and after a tedious expectation, an imper-

* See ſticticum forward.

fect

fect kind of ſuppuration came on, for upon opening the half elevated tumor, the matter was thin, and the cellular ſubſtance, but in part diſſolved. However all was put to right, by the bark, opium, wine, and a generous diet.

Innumerable inſtances of the ſame kind, might be ſelected, to prove the danger and impropriety of attempting methods, contrary to what nature herſelf purſues. Medical books abound with obſervations of ſuppuration coming on, in oppoſition to every attempt to ſuppreſs it; and there is not any doubt with me, about the injudiciouſneſs of not ſuffering ſuppuration to take place, (except under particular circumſtances) whenever a metaſtaſis of matter is ſeated in the cellular membrane, lying immediately under the ſkin, eſpecially as a loſs of part of theſe ſubſtances, is no ways injurious to the patient.

Indeed, the impropriety of repelling critical

critical inflammations, or tumors thus brought on, has been ſpoken of ever ſince the days of Hippocrates; and many cautions have been urged againſt ſuch practice. But what has been ſaid about it has not been ſet in a light, ſufficient to deter practitioners, from treating moſt kinds of inflammation in the ſame manner; for ſeeing critical inflammations daily diſperſe with ſafety, they have firſt tried this method *, owing to their not making a proper diſtinction, betwixt the ſeat of the cauſe of one inflammation and another. And we have too commonly gone on diſcuſſing, till nature has ſtared us in the face, and ſhewed the impropriety of our proceedings. But we hope the arrangement made, will ſet this matter in its true light, and prevent future miſtakes.

Critical abſceſſes are ſaid to be occa-

* See inflam. chap. 2d. p. 316.

ſioned

Metaſtaſis what and how made.

ſioned by a metaſtaſis, *(tranſmutatio)* by which we underſtand, a ſeparation of morbid ſerum from the blood by ſecretion; for where acrimony prevails in the juices, we apprehend it will paſs along with the lymph, till it ſtagnates or meets with obſtruction: this happened in the young man's groin, mentioned in the introduction *, where bile being mixed with the circulating juices, occaſioned an ulcer by ſtagnating in the cicatrix. If acrid matter happens to ſtagnate in the cellular membrane, it will by irritating invite a flux of offending humors to the part, and form an abſceſs. If it does not ſtagnate in the cellular membrane, it will be taken up by the lymphatics, and be carried into the lymphatic glands, in the ſame manner as the variolous matter is carried in inoculation, and produce a glandular abſceſs. We have obſerved

* P. 112.

that

that a fit of the gout, may be occaſioned by the lymph in this diſpoſition, being incapable of paſſing through compact ligaments; and it is worth conſidering, whether every depoſit of matter, as it has been called, is determined by nature to a particular part, or whether it happens accidentally in the manner deſcribed: becauſe, if this obſervation is a ſtep nearer to truth, it follows that an abſceſs is critical only*, by the flux that is invited into the part, and by the ſubſequent diſcharge; and may not upon theſe principles, cauſtics in particular inſtances ſupply the place of bliſters with advantage? and we may gain more benefit in fevers from artificial drains, than has hitherto been obtained.

But leaving this ſubject to the reflection of cool ingenuous men, after repeating that an inflammation of the ſkin ac-

* See abſceſs of the glands.

companied

companied with a thickening of the cellular membrane is the criterion which diſtinguiſhes the coming on of a purulent abſceſs; we muſt proceed to obſerve that ſuppuration is entirely the work of nature, as is evident from its often coming forward under all ſorts of applications; and that art can only do ſervice, by regulating the inflammation and the action of the nerves, which may be greater or leſs than they ought to be. If the inflammation be too great, it retards ſuppuration, by preventing a regular ſecretion, and rendering the ſtagnating fluids ichorous; and if there ſhould not be a ſufficient degree of heat in the part, the progreſs of the tumor towards maturity will be very ſlow, ſo that a medium ought to be obſerved in ſuch caſes.

Suppuration the work of nature.

Art by what means uſeful.

For this purpoſe, the practice of applying emollient pultices, where the inflammation proceeds regularly, ſeems preferable

Emollient cataplaſms when neceſſary

preferable to all other methods; becauſe they lie eaſy, adapt themſelves properly to the tumor, leſſen irritability, and pain, by taking off tenſion; and by relaxing the ſkin, they make way for the accumulating matter, and thus determine it to a particular point. Nor is it very material what kind of emollient pultice is choſen, provided they be properly boiled; as they all produce the ſame effect. The old doctrine, which introduced mucous ſubſtances into theſe applications, to promote concoction and maturation, by ſtopping up the pores; was founded on falſe theory, as is evident from the uſe of gum plaiſters, which promote perſpiration, and ſuppuration both at the ſame time: and though white lilly, or marſh-mallow roots, linſeed, &c. being added to cataplaſms makes them perfectly emollient, and leſs liable to become dry, yet it is now agreed on all hands, that under

der the predicament mentioned, the white bread pultice will keep the inflammation within due bounds, and do all that is required from ſuch kind of aſſiſtance, if applied twice a day. Oftener is not neceſſary for the heat it abſorbs from the inflamed part, keeps it ſufficiently warm.

More cooling remedies when to be applied.

However when the inflammation is too great, other remedies are required to leſſen it. The ancient practice of adding the juice of cooling herbs to cataplaſms, will often anſwer this purpoſe. The cerate of Galen is a great cooler, and even cloth wet in cold water may be applied conſtantly till the heat abates, without danger of repelling the matter. But I have joined a ſmall portion of the vinegar of lead, to the common bread pultice, in which ointment of elder ſupplies the place of hogs-lard, with all the advantages I could deſire; which I ſuppoſe was owing to its diminiſhing the irritability of the part,

and

and thereby preventing in ſome degree, the afflux of heat and humours, that would otherwiſe have happened.

Manner of applying a pultice to produce a cone in the tumor

But whether we have recourſe to ſimply emollient, or cooling remedies, they ſhould be confined to the part where the matter is moſt likely to preſent itſelf; and to the parts round about, Diachylon ſpread the thickneſs of half a crown, or ſome other mild defenſative, ſhould be applied, otherwiſe ſuppuration may be more diffuſive than is neceſſary. For though pus in an abſceſs, cannot ſpread itſelf along the cellular membrane, in the ſame manner as extravaſated blood, or water, when its fibres and laminæ, are rendered empermeable by ſurrounding inflammation, and hardened into a kind of cyſt, round the matter formed; yet corroſive matter will ſpread itſelf more than it would have done, by relaxing parts which were inflamed, and which the method

adviſed moſtly prevents. The matter I obſerve, is by this method kept in leſs room, a large cone is formed, and the rupture in the tumor is much larger, than when this precaution is not taken; probably, from reſiſtance to its preſſure being removed only in a particular part, becauſe matter in abſceſſes, it is well known, always tends to the place where it meets with the leaſt reſiſtance.

Bleeding.

Bleeding has alſo been recommended to promote ſuppuration, where the inflammation has been too great, under a plethoric ſtate; and by leſſening heat, and abating the impulſe of the blood, it may do ſervice in ſuch conſtitutions. Therefore, if along with great tumor, and inflammation, a quick pulſe is accompanied with fulneſs, a moderate quantity of blood may be taken away. But a quickneſs alone may be diſregarded, as it only indicates the irritability of the habit, and will

will diſappear when the inflammation abates. Nor ſhould our ſteps be guided wholly by the preſent ſymptoms, unleſs they are very urgent. We ſhould look forward, and be upon our guard, againſt events that may prove troubleſome, or dangerous in the progreſs of the cure. Whenever there is a likelihood of matter being abſorbed, thinning the blood, emptying the veſſels, and reducing the ſtrength of the patient, will occaſion its being taken up in larger quantity, and its having more violent effects. This happened we have ſeen in the nobleman's daughter. There are multiplicity of ſimilar inſtances to be met with in writers, where death ſeems to have been brought on in the ſame manner: and it behoves us to be very circumſpect in the uſe of the lancet, under ſuch circumſtances. In reviewing my practice, I call to mind very few inſtances, in which I have had occaſion to

bleed, to promote ſuppuration. Saline draughts, cooling purges, whoſe effects were chiefly confined to the bowels, and a cooling diet have moſtly anſwered my purpoſe, where the heat of the part required moderating.

Heat when neceſſary, to promote ſuppuration.

On the other hand, when the progreſs of the tumor is ſlow, and it is deſtitute of that heat, which uſually accompanies a regular ſuppuration; warming topics ſhould be employed. The pultices in which there are raw or roaſted onions, Burgundy pitch, &c. are recommended on this occaſion; but theſe irritate, and tend to bring a greater flux upon the ſkin than is neceſſary, without aſſiſting nature in a proper manner, being incapable of invigorating the nerves. I therefore prefer thoſe remedies that quickly promote ſuppuration by warming the nerves, and increaſing their energy without irritating. Nor can it be unnoticed by thoſe who have

have attended to this matter, that the gums, ammoniacum, galbanum, ſagapenum, bdellium, opopanax and myrrh, properly managed, will accompliſh theſe effects. Beſides, where the ſtate of the nerves requires an increaſe of warmth, it is certain that in many inſtances they give eaſe, and bring on ſuppuration at the ſame time *.

What kind of remdies to be choſen for this purpoſe.

But to anſwer theſe ends effectually, ſeveral of them ſhould be joined together, for though when a ſimple remedy, of known efficacy is to be uſed, we cannot be too careful in preventing chemical alteration, yet it muſt be remembered, that ſimplifying compound medicaments, often diveſts them of their power; as the different effects of the ſticticum of Paracelſus, and of the common gum plaiſter, ſufficiently evince: the one being a raw compoſition, with inferior properties, the

* See inflamed glands.

other rich and powerful, as we ſhall have ſeveral occaſions to obſerve. When different ingredients are mixed together, whether according to the rules of the chemiſt or not, by acting upon each other *, it is well known they form a new medicine, and may then be viewed in the light of a ſimple remedy, with a greater number of conſtituent parts, which frequently, I am perſuaded, increaſe the power of the whole. A number of well choſen cordials united, are more rich and powerful, than when few component parts are employed, (wine excepted). The *tinctura ſacra* of the laſt, was a more efficacious remedy, than that of the preſent diſpenſatory; and ſeveral bitters being put together, are ſaid by a modern phyſician to be more powerful than when few are ſelected. In like manner, a number

* See Macquer on the affinities between bodies, Theo. of Chemiſtry, chap. 2d.

of

of different gums meliorate each other, and become capable of producing effects which none of them could produce if uſed alone. Nor do I know any plaiſter where animating applications are required, equal to that mentioned, both on account of its conſiſtence, its coming off without ſticking, its giving a generous warmth, and invigorating the nerves. It is true it is an operoſe compoſition *, and deviſed with whimſical intentions, but we are to view it in its mixed form, and judge of it by its effects, as has been done in learning the uſe of all other remedies, whoſe operations are known. Nevertheleſs, compoſition ſhould be regulated by judgment; for by jumbling a number of ingredients together, inſtead of increaſing their power, we ſometimes deſtroy the whole, eſpecially where chemi-

* I have tried to make it leſs complex but always ſpoiled it.

cals are taken in, witneſs the *pill. æthiop.* which I never ſaw have any effect.

The different effects of irritating and animating applications.

Cheſelden ſays * the *Emplaſtrum ex Euphorbio* is a moſt excellent *ſuppurative*, and better than that of Paracelſus, both in its conſiſtence and uſe; but the ſticticum, and this plaiſter produce different effects, one by irritating, the other by regulating the actions of the nerves †. This diſtinction has not been ſufficiently attended to in practice, for irritating ſubſtances by inviting a flux, often occaſions a greater extent of tumor, than would have happened, had nature been left to herſelf, or the ſticticum applied; which being compounded of ſedative and ſtimulating ingredients, is ſufficiently active, without irritating the parts with which it comes in contact: for in the numerous inſtances in which I have uſed it, I do not

* Ledran's Operat. p. 467.

† This will be proved in ſpeaking of inflamed glands.

remember

remember ever ſeeing it fret the ſkin, except once when it was new made.

The honey pultice made by boiling *, warms without ſenſibly irritating in general, and will anſwer every intention where more heat than common is wanting. The *cataplaſma maturans* of the London diſpenſatory is in the ſame claſs, or the *emplaſtrum ſticticum* ſoftened with oil of St. John's wort, and made into a pultice with linſeed flour will not be leſs effectual. But whenever time is required to finiſh the work, the plaiſter alone is preferable, becauſe it is attended with equal advantage, leſs expence, and leſs trouble, both to the patient and his attendant. I have never tried dry cupping in this inſtance, becauſe the method recommended has always anſwered my purpoſe.

* If a pultice is made by rubbing honey, oatmeal, and lard together, it is an eſcharotic; but being boiled it produces different effects.

Fomentations to be uſed under reſtrictions.

Hot fomentations have been indiſcriminately adviſed, to promote maturation in abſceſſes; but as they are liable to do great injury, they ſhould be uſed under proper reſtrictions. Where the fluids are capable of being abſorbed, they undoubtedly promote abſorption, and are therefore improper when we mean to promote ſuppuration. And ſurely thoſe who adviſe the uſe of cataplaſms, and fomentations together, in common inflammatory gatherings, recommend oppoſite intentions to be carried on at the ſame time. It is ſuppoſed indeed, by increaſing the heat in abſceſſes, we promote a fermentation, which is neceſſary for the production of pus. But the doctrine of fermentation in abſceſſes, is nothing more than an unſupported conjecture. We ſee pus is commonly formed without it; and where the tumor has a regular tendency to ſuppurate, it is well known

known fomentations are abſolutely unneceſſary; for under an emollient cataplaſm the diſeaſe terminates in its own way, without interruption, and thoſe who employ them in this inſtance do more than ought to be done.

Nevertheleſs in cold indolent abſceſſes I have ſeen hot fomentations do ſervice.

The upper part of the outſide of a girl's thigh, about fifteen years of age, was very much enlarged without being inflamed, and the cellular membrane felt greatly thickened. Various remedies had been long tried by the family, without any effect; but upon ordering a fomentation of wormwood, *Centaury*, *Crude Sal Ammoniac*, &c. twice a day, and applying the ſticticum between whiles, the ſtagnating juices were apparently attenuated, and being confined, ſuppuration ſoon enſued. I have ſeveral times ſeen the ſame effect under ſimilar circumſtances, and doubt

doubt not but it has been ſeen by others; yet when the fluctuation becomes evident, the fomentation muſt be laid aſide, otherwiſe it will promote abſorption of part of the matter, and protract the diſeaſe.

Internal remedies.

Internal medicines alſo, are often of great ſervice in forwarding the ſuppuration of abſceſſes, where vigor is wanting, but none more than the bark; for it ſeldom fails, where nature can be aſſiſted, of enabling her to bring the ſwelling to ripeneſs, except in what are called ſcrophulous tumors, where I think it produces no ſort of effect. Opium, if pain makes it neceſſary, will be found ſerviceable; wine, ale, and nouriſhing food will aſſiſt much in bringing the diſeaſe to a criſis.

Symptoms of matter being formed.

In inactive abſceſſes, attended with little or no pain, fluctuation is the firſt ſymptom of matter being formed; but in inflammatory gatherings, a remiſſion of inward pain, (though the inflamed and

and tenſe ſkin remains painful) generally leads us to conclude, that a diſſolution of the diſtracted nerves has taken place, that ſuppuration is commenced, and where it goes on regularly, we ſhould in general purſue the chirurgical axiom, of waiting with patience, till the abſceſs is ready to open of itſelf, or rather till it breaks: for though it be true, that matter is always ripe, yet the tumor is not ripe till all the hardneſs is diſſolved; and when this is effected, the cure is ſooner accompliſhed, and with more eaſe, than when it is diſcharged by a premature opening. Good *pus* is a moſt gentle diſſolvent, and commonly, if we except pain from diſtenſion, does its work without great violence; and when the tumor is ſuffered to break of its own accord, (inſtead of a haſty evacuation, which occaſions a deliquum, or often weakneſs, from ſtimulus being ſuddenly removed, the

Abſceſs when ripe.

the matter runs off gradually, the ſkin ſubſides, and though we are forced to dilate the opening, we have milder appearances, than when this part of the work is taken out of nature's hand: we therefore recommend leaving as much to her as poſſible, without being remiſs in removing impediments to the cure.

And when in general to be opened.

Indeed when pain from the diſtenſion of the ſkin is exquiſite, it may induce us to puncture the tumor with a lancet, a few hours ſooner than it would break naturally; and as nature has ſo nearly finiſhed this part of her work, we may procure immediate eaſe to the patient, without hazard of interrupting the cure. But we can ſee no reaſon for the common practice, of opening every abſceſs as ſoon as the ſkin becomes thin, and the fluctuation of matter very ſenſible; becauſe daily experience evinces, that nature will accompliſh the remainder where

where no impediment is in the way, in the ſame manner as ſhe brought the tumor to perfection. Nor ſhould we be haſtened in our proceedings, from apprehending that matter being longer confined, may corrode the arteries, veins, tendons, or bones; as this I believe never happens, where it can get to a part which makes leſs reſiſtance, unleſs inſtead of *pus*, an exceeding corroſive ichor deſtroys all the parts it touches. I have never, that I can remember, met with ſuch accidents, though I have ſeveral times known the large arteries ſurrounded with matter a conſiderable time. Surgeons cannot be ignorant how powerfully membranes, ſuch as the faſcialata of the thigh, reſiſt matter, and the ſame may be ſaid of tendons when not primarily concerned. When we met with foul bone in abſceſſes, I believe the diſorder moſtly originates at the bone, or in its membranes;

Membranes, tendons, &c. reſiſt matter.

membranes; but this I am certain of, that in general, we run more hazard of injuring the bone by opening tumors before the matter is completely formed, by admitting air, to occaſion acrimony that would not otherwiſe have happened: and truly the opening every maturated tumor, as the books direct, ſeems to be as abſurd, as the application of the forceps would be in every natural labor, as ſoon as the head of the child comes within their reach. Should it not be from neceſſity in both caſes when we have recourſe to art, and yet how ſeldom is matter in abſceſſes ſuffered to make its own way out?

All muſt agree with Dr. Hunter* "that "when once an abſceſs is formed, in pro- "portion as the matter is collected, it "muſt enlarge the cavity of the abſceſs; "and this enlargement will be moſt on

* Lond. Inq. 2d Vol. p. 57.

that

" that ſide where the reſiſtance is leaſt.
" Hence matter gradually makes its way
" to the ſurface of the body, be it ever
" ſo deeply ſeated.—When it lies near the
" ſurface of the body, and is covered by
" ſkin only, and cellular membrane, it
" points and burſts directly outwards,
" but when it is deep, and covered with
" more reſiſting parts, ſuch as an *aponeu-*
" *roſis*, &c. it runs under them, and as
" ſoon as it has got from this confine-
" ment, it puſhes to the ſkin, and opens
" perhaps after a winding paſſage, at a
" conſiderable diſtance, from the origin-
" al ſeat of the diſtemper; when in
" large quantity, it commonly by its
" weight tends towards the lower part
" of the body, and thus procures for it-
" ſelf a depending drain, and hence the
" advantage of leaving ſuch tumors to
" point or open of themſelves."

To theſe general rules however, there

are ſome exceptions, which we ſhall take notice of in their proper place; and ſhall now obſerve, that Mr. Acrel has written a memoir, which tends to prove that in ripe critical abſceſſes, the matter ſhould not be diſcharged through an opening in the tumor, but by the bowels. * He founds his practice on having obſerved in the camp hoſpitals, that fevers among the ſoldiers terminated frequently by critical abſceſſes, in different parts of the body. That the patients found themſelves beſt when the tumor was ripe, and fit to be opened, but upon opening them, they relapſed, the ſymptoms returned, and moſt of them died within eight days after. Whereas a *thouſand*, in whom the matter was abſorbed when come to maturity, and carried off by ſtool, recovered. Wherefore, in future

Acrel's method of treating abſceſſes conſidered.

* See an abſtract of this paper in Mr. Deaſe's Intro. to the Theory and practice Pof Surgery, p. 96.

he

he ſuffered the gatherings to come to a head, and then immediately purged the patient, who became ſtronger, the pus decreaſed, the ſwelling gradually diſappeared, and far the greateſt number got well: but the reaſon this practice has not been purſued, ſeems to be, that the opening of abſceſſes in general is not ſo injurious as this memoir repreſents.

Nevertheleſs, for reaſons we ſhall aſſign in the next chapter, his practice may probably be followed in internal abſceſſes, ſuch as thoſe ariſing from the pleuriſy, hepatitis, upon the pſoas muſcle, &c. with advantage; there being a material difference, betwixt the effects of crude, and ripe matter being abſorbed. One we have already ſpoken of, but ripe good matter paſſes off with great readineſs, both by urine and ſtool, without mixing with the juices in the circulation, or ſeizing upon any of the parts through which

Abſorption when it may be promoted, and how.

it paſſes; as its appearance in theſe evacuations when taken up from wounds and abſceſſes, continually evinces. But whenever we propoſe to purſue this plan, briſk purging muſt not only be employed, but hot fomentations be alſo uſed; for theſe, by promoting the circulation in the ſmall veſſels, accelerate this proceſs: nor are vomits to be neglected, eſpecially in weak habits; as they promote abſorption without debilitating ſo much as when purging medicines are uſed. Diuretics too, on the intermediate days, will aſſiſt by irritating the nerves, and the patient's ſtrength muſt be kept up by tonic medicines, cordials, and a nouriſhing diet; for without a proper degree of ſtrength being preſerved in the abſorbents, they probably would be incapable of performing their office. Yet I would not have it underſtood that I imagine abſorption can at all times be promoted

moted by theſe means; as I know the preſcriber's intentions do not ſucceed in every inſtance.

But though mild matter paſſes off, when abſorbed, without doing injury; yet when matter poſſeſſes a degree of acrimony, or is in ſo great a quantity as to overload the habit, an ill ſtate of health is often the conſequence. What kind of matter does injury when abſorbed.

A ſwelling appeared on the ſhoulder of a girl about fifteen years of age, on the decline of the confluent ſmall pox; but being attended with very little pain, or inflammation, it was overlooked by the family who were poor people. Riding accidentally by the houſe, I was deſired to ſee her, and found an uninflamed bag, containing in appearance nearly a quart of matter, which I intended to have let off gradually the next day; but the apprehenſions of undergoing an operation, worked ſo powerfully upon her nerves, Inſtance.

that the abſorbent ſyſtem was put into motion, and coming to her for the purpoſe of opening the tumor, I was ſurpriſed to find, three parts of the matter drank up and gone, and the remainder went in a few days. A hectic fever, and abſceſſes which were opened in different parts of the body, ſucceeded, but the viſcera eſcaping, ſhe recovered after a tedious illneſs, in which ſhe took bark, antiſeptic diuretics, &c. and milk was the food on which ſhe principally lived. All this has been verified ever ſince the days of Hippocrates; who obſerved, that when critical abſceſſes ſubſided without a ſucceeding fever, and the matter paſſed off freely by urine, or ſtool, or both, the patient recovered: whereas if a fever came on, death was generally the conſequence, unleſs the matter was tranſlated to ſome other part of the body.

Diſcharging the matter, however, from external

external abſceſſes by urine and ſtool, will ſeldom I imagine be practiſed, unleſs nature herſelf directs this method, and ſhe muſt then be watched; for if a diſagreeable hectic appears, the tumor, if poſſible, ſhould be laid open, ſo that no matter can lodge, and be the ſource of miſchief. The bowels ſhould be occaſionally opened, and other internal medicines capable of correcting, and carrying off the matter which has been abſorbed, ſuch as ſweet ſpirit of vitriol, ſpirit of nitre, or ſpirit of ſalt, ſhould be given in agrimony or chamomile tea; and ſhould a greater diſcharge by the bowels than is neceſſary attend, ſtarch in ſmall cinnamon-water may be added, to correct the irritating matter, and defend the nerves of the firſt paſſages. When one drop of laudanum is joined to each doſe (probably by leſſening the irritability,) it more powerfully keeps the diarrhœa within bounds,

When nature herſelf purſues this proceſs what to be done.

and therefore may be occaſionally given, when ſtarch alone proves inſufficient for the purpoſe, which will not very frequently happen. But theſe accidents are moſt commonly prevented, if the matter from the ulcer has a free diſcharge.

We have before us, at preſent, moderate ſized abſceſſes, ſeated in the cellular membrane, which it is known commonly terminate well, after making an inciſſion in a ſtraight direction, to lay the tumor open from one end to the other, when the matter fluctuates, and is very perceptible under a thin ſkin: but our enquiry leads us to examine, whether a gentler method of curing by the firſt intention, by an immediate union of the parts which were ſeparated, may not ſometimes be purſued with ſuperior advantages.

Cure by intention.

If the directions we have given, about their being brought to a head, be obſerved, a conical bag will often be formed, the

the opening will be ſufficiently, large in a depending part, to lay the abſceſs dry, and every end we could wiſh be frequently obtained, without the inconveniences that commonly, more or leſs, depend on the methods generally uſed in opening theſe tumors. Beſides, the matter being ſuffered to drain off gradually, the ſkin ſubſides, prevents the admiſſion of external air into the cavity, and afterwards unites with the parts underneath. And I am certain, abſceſſes by this ſimple treatment will oftener get well than has been imagined, if the ſeparated parts are not prevented from uniting, by improper dreſſings. A mild digeſtive balſam, upon a ſoft pledget of lint, ſhould be put gently into the mouth of the ulcer, ſo as not to impede the diſcharge, and the treatment hereafter recommended in this chapter be purſued; for if relaxing pultices are too long continued, a flux of matter

ter may be brought on, that will fruſtrate our intentions.

Dilatation when to be made.

However, if after waiting a proper time, the opening ſhould be found inſufficient to drain off all the matter which ought to come away, and the parts do not unite; a conſtant ſecretion from irritation, freſh collection of matter and ſinuſes, with diſagreeable, or perhaps dangerous ſymptoms from abſorption, may enſue, and the practice of extending the opening the whole length of the tumor, or as much as is neceſſary, by cutting upon a director, muſt then be followed. I prefer one made of wood, to any kind of metal; becauſe, inſtead of making dilatation by puſhing the knife forward, we do it by the uſual and more eaſy method, of drawing it through the parts we mean to divide; for if ſoft wood be choſen, the point of the knife, or lancet, which ever is uſed, being fixed in it, gives a ſteadi-

a ſteadineſs to the operation. I chuſe a lancet fixed in a handle, becauſe, being thinner, it cuts with conſiderable leſs pain than the knife, and is leſs terrible to the mind of the patient. The director ſhould be introduced as gently as poſſible, that the ſkin which has ſubſided may not be diſturbed. Nor ſhould the ſubſequent dreſſings be crammed into the inciſion, to diſtend the lips of the ſore. It is ſufficient if the matter has a free exit, and dreſſings which juſt keep the lips aſunder, will commonly accompliſh this purpoſe; and a cure, by the union of the ſkin with the parts underneath, will ſooner happen, and with more eaſe to the patient, than when a contrary method is taken, provided the muſcles are kept in a relaxed ſtate.

In very large abſceſſes, though the matter extends itſelf no farther than the cellular membrane immediately under the

the ſkin, it is to no purpoſe to wait for a cure, without making a longitudinal inciſion, ſufficient to prevent matter lodging. I have ſeen the largeſt abſceſſes, that could poſſibly happen to the external parts of the body, cured by this method, with the utmoſt facility; the ſkin on each ſide the inciſion being reſtored to its proper place, by the aſſiſtance of bolſters and bandage. If it is neceſſary to make more openings than one, (for an opening in one direction only, may not, from the ſituation of the matter, be able to execute fully our deſigns,) a man's own judgment muſt direct him in what manner to proceed; but if openings are made in ſuch a manner that no matter can lodge, they always anſwer the end. Le Dran* and others after him, have adviſed an oval piece of the ſkin to be taken away, when matter is diffuſed under the *membrana*

* Chir. Operations.

adipoſa,

adipoſa, or ſkin; becauſe, he ſays, a ſimple inciſion would have a looſe lip on each ſide, which turning inwards would make the dreſſings painful, and hinder the digeſtions from being eaſily applied to every part of the ulcer. But, except paring away ſkin, which is become ſo very thin, and ſo much worn out, that it cannot poſſibly unite, I have never ſeen it neceſſary to purſue this method; and I think it ſhould be avoided as much as poſſible, becauſe it occaſions a loſs of ſubſtance, that muſt be repaired with difficulty and length of time.

It is in deep-ſeated abſceſſes where the ſkin is much thickened, that counter openings become neceſſary, where in making dilatations the finger is the beſt conductor to the knife, becauſe we feel what we have to cut through, what we are doing, and where from the vicinity of large blood-veſſels, nerves, tendons, &c.

an

an edged inſtrument ſhould not come; when ſuch an opening is made, the lips cannot give too free an exit to the diſcharge. They ſhould therefore be kept aſunder by the dreſſings, which ſhould be applied with gentleneſs to the bottom of the ulcer, that it may fill up regularly without leaving a ſinus behind.

Cauſtics. Notwithſtanding much has been ſaid in praiſe of cauſtics in opening abſceſſes, and though they are ſtill commonly employed, I rarely find them neceſſary; and think the reaſons to be met with againſt them are in general well founded. To which we may add, that they alſo affect the ſkin a conſiderable way beyond the eſchar, occaſion an ill condition in the lips of the ulcer, and a backwardneſs in the healing of the ſore. They ſeldom do more than nature may be invited to do, by a much more gentle operation: were they applied in ſuch a manner as to make a large

a large opening, the diſadvantages attending a loſs of ſubſtance would be the conſequence *; and could any thing but timidity, or falſe reaſoning, have introduced the practice of applying them, on a ſuppoſition that they are neceſſary to aſſiſt nature in deſtroying the ſkin? It is ſurely a cruel chemical device, without affording any particular advantages, that cannot in general be obtained with leſs pain, either by nature, or art, though opium is employed at the ſame time to mitigate their violence. With more appearance of reaſon, ſome employ them in critical abſceſſes before they are ripe, to deſtroy the parts impregnated with the humour ſeparated from the blood, and to prevent its return into the habit. But this can only be neceſſary when nature is remiſs, and they ſhould then, if uſed, be

* See Ulcer.

made

made to penetrate deeper than the ſkin, that they may act upon the cellular membrane.

Seton, its advantages.

Thoſe who prefer the ſeton for diſcharging matter from purulent abſceſſes, to all other methods, ſay, "the pernicious influence of the air upon newly "opened abſceſſes is often really aſtoniſhing. It firſt occaſions a total change "in the nature of the matter, from perhaps a very laudable pus to a thin ill-"digeſted ſanies; and afterwards brings "on a quickneſs of the pulſe, debilitating "ſweats, and other ſymptoms of hectic "fever, which in a ſhort time generally "ends in the patient's death, or in the "production of a phthiſis, which at laſt "terminates ſo. And that though a "great number of patients, remained for "a very conſiderable time with large "abſceſſes fully formed, without having "any one ſymptom of hectic whatever,

yet

" Yet an inſtance was never obſerved to
" happen, of their being opened by a
" large inciſion, without almoſt every
" ſymptom of hectic taking place; and
" that generally in leſs than forty-eight
" hours from the time of their being laid
" open. Whereas, the method of diſ-
" charging the contents of tumors by
" the introduction of a cord, is attended
" with every advantage of that by in-
" ciſion. It moreover, empties the ſwell-
" ings of whatever ſize they may be, not
" ſuddenly, but very gradually. It ef-
" fectually prevents a free admiſſion of
" air. It is not commonly attended with
" near ſo much pain and inflammation;
" nor is the cicatrix occaſioned by it, e-
" ver inconvenient or unſeemly, which
" it frequently is after a large inciſion.
" The patients treated in this manner all
" did well, and the cure was common-
" ly obtained in little more than half

" the time generally found neceſſary " when a large inciſion has been had re- " courſe to." Which obſervations perfectly correſponded with thoſe made by Mr. Acrell.

Per contra.

On the contrary, Mr. Belloſt, ſays *, " as for abſceſſes of all ſorts, which " have come under our hands in this " hoſpital, and have been cured with " an expedition that may appear in- " credible, I will only ſay this; that " judging it ſufficient to make a large " opening in them, I left the reſt to the " ſage conduct of nature, not forgetting " general remedies, and the ordering of " diet. But as for the dreſſing of the ul- " cer, I only uſed a ſimple pledget cover- " ed with the moſt common medicines, " and ſometimes in caſe of a cavity, " ſmall compreſſes for expelling the hu- " mour with a plaiſter and a bandage

* Hoſp. Surgeon, part i. chap. 10.

" ſuffi-

" ſufficient to keep it on. The great " number of thoſe who have been treated " in this hoſpital, according to this me- " thod, and cured in a very ſmall time, " is beyond belief.

" When the orifice is not ſtopped up " with an extraneous body, it is evident " the matter can make no ſtay in the " parts, but will come away without inter- " miſſion; and the parts that were thereby " kept at ſome diſtance from one another " come together, and at the ſame time " do expel whatever may be there con- " tained, and leave no empty ſpace for " the collection or abode of what is " uſeleſs or inconvenient. Hence parts " are united, nature acts at her freedom, " whoſe balſam generates fleſh better " than all the remedies in pharmacy."

Practice which ought to be omitted.

" I hope I may preſume, that none will " think I have continued in the uſe of " this method for ſo long a time, had I

" not experienced its deſirable effects on
" a thouſand occaſions; and I could ſafe-
" ly take my oath, that never the leaſt
" accident happened to any of thoſe
" who were dreſſed after this manner.
" Every one may believe as he thinks
" good of what I ſay, but I dare aver,
" that I am much more careful that
" what I ſay ſhould be true, than that it
" ſhould be perſuaſive."

Hippocrates ſaid * " cold is ſharp and
" biting to ulcers, hardens the ſkin, oc-
" caſions pain without ſuppuration, li-
" vidneſs, feveriſh rigors, ſpaſms, and
" tetanus." On this aphoriſm Galen †
wrote a comment, which was enforced by
the Greeks, and copied by the ſubſequent
writers to our own times; and hence a
general rule was laid down, that the air
is injurious to ulcers, and wounds. No

The effects of air in abſceſſes, &c. conſidered.

* Aphor. 20. ſect. 5. † De Simp. Med. Facul. lib. iv. cap. 1.

one

one among them cultivated this opinion with greater vigor than Belloſt *, ſuppoſing that, "by a ſharp and clammy "acidity, it corrodes the fleſh, and utterly "ſpoils the temper of the parts, by waſting the ſpirits that preſerve the *radical* "*moiſture*." But Mr. Sharpe † was of a different opinion, for ſpeaking of abſceſſes after they are opened, he ſays "I do not "think the air has that ill effect on ſores "as is generally conceived; nor would "the large abſceſſes on beaſts, which "are often expoſed to the air the whole "time of cure, do well if it was ſo very "pernicious as is repreſented. But as it "tends to the making a ſcab, and in winter is a little painful to the new fleſh, "it will be right to finiſh the dreſſing "as quick as may be without hurrying." Which ſentiment Mr. Freke ‡ attacks

* Hoſp. Sur. part i. chap. 10. † Introd. Treat. on Surg. p. 27. ‡ Art of Healing, p. 124.

by ſaying, (to give a greater proof of the air influencing the external parts of the body,) "Let any ſurgeon open a cold tu-
"mor which was cauſed by congeſtion;
"it ſhall, on its diſcharging a little curds
"and whey, appear to have no ſigns of
"inflammation for a few days. But he
"muſt have had but little buſineſs,
"or have been a ſlight obſerver, who
"knows not that not only inflammations,
"but very dangerous fevers, uſually fol-
"low the opening of theſe cold tumors,
"which are kept quiet generally, till they
"are expoſed to the air." But notwithſtanding this contrariety of ſentiments, I believe, excepting Mr. Belloſt's *theory*, they are all right, under different circumſtances, and the reconciling them is of importance in the practice of Surgery.

In open ſores.

I perfectly agree with Hippocrates, that cold air gives pain to ſenſible ſores, which often

often continues ſeveral hours. In brute animals we daily ſee it harden the wounded parts, ſuppreſs ſuppuration, and form a cruſt which ſoon prevents its influence. We ſhall hereafter have occaſion to obſerve, that a ſtream of cold air upon ulcers has brought on a gangrene. By irritating it no doubt, ſometimes brings on rigor, and we have already noticed its effect in the *tetanus*. But theſe are all accidental, and depend upon the air being very cold, or the ſore very irritable; becauſe we conſtantly ſee large open ſores, in which the air produces none of theſe effects.

The effects attributed to it after opening abſceſſes, are of a different nature, thoſe of rendering the matter more active and virulent; and this we know ſometimes happens. It muſt be obſerved however, that Mr. Acrell's and Mr. Belloſt's obſervations were chiefly made in hoſpi-

In newly opened abſceſſes.

tals, in which it is well known, the air has a more pernicious influence than where it is not tainted with putrid effluvia; as the fatal termination of compound fractures, fractured ſkulls, &c. ſo frequently evince in ſuch ſituations, owing not altogether to matter in the ſore being changed, but in a great meaſure to the whole body being previouſly diſeaſed, from breathing polluted air, and which may account in part for the unfavourable manner in which their operations terminated. But ſeeing Mr. Belloſt's and Mr. Sharpe's obſervations were made in a ſimilar ſituation, there muſt be ſome other cauſe for the differences they have remarked. This I apprehend Mr. Belloſt has pointed out in his reflections on the mode of practice above tranſcribed; for, as far as I can judge, it is chiefly when external air gets admittance into, and is confined in the cavity of ulcers, that it is prejudicial

cial, by changing good matter to bad: for being incapable of getting at liberty, it becomes by the heat of the part more active, and more pernicious, as we ſhall have ſeveral opportunities of ſhewing. Otherwiſe if external air had always the ſame injurious effects upon matter, could ſurgeons have ever agreed in opinion, that good pus is the beſt balſam in ſores; for what ulcer is there to which the air has not free acceſs at the time of dreſſing?

By what means it becomes pernicious to them.

It is thoſe abſceſſes where inciſions being not made ſufficient for laying them dry, or when after proper dilatations the matter is confined in the ſore by improper dreſſings, that are accompanied with an hectic; but by giving free liberty to air, as well as to matter to eſcape, we commonly remove the very ſymptoms large openings are ſaid to bring on. I know of no practice, the good effects of which I can ſpeak of with more certainty. We by

And how to be avoided.

by this method take away the cauſe of the fever; and notwithſtanding the late objections (from not making proper diſtinctions) to this mode of proceeding, I apprehend it will ſtill, if poſſible, be purſued, wherever matter lodges in hollow ulcers. Even where the matter is acrid from a bad habit of body, if we take the neceſſary ſteps to prevent abſorption, by the application of ſpunge, or by correcting its virulence with topical applications, it ſeldom does any harm, though a conſiderable ſurface ſhould be bare. Nor is the ſeton free from the inconveniences ſaid to be brought on by inciſions; for the air ſometimes gets admittance along the cord, and being confined renders mild pus acrid, and brings on inflammation and its conſequences. I have tried it in lymphatic abſceſſes, in hope of having milder ſymptoms, too often

Setons not free from inconvenience.

often without ſucceſs * ; but was happy in putting an end to the unfavourable ſymptoms, by dividing the ſkin from one opening to the other. Beſides, when an abſceſs occupies the greateſt part of the back, &c. as I have repeatedly ſeen, it is impoſſible for one ſeton, unleſs of the ſize of a cable, to diſcharge the matter properly. Several in ſuch caſes muſt apparently be employed, if we mean to ſucceed, and a large inciſion or inciſions under ſuch circumſtances, will I apprehend ſometimes be found neceſſary.

On the other hand, I have uſed ſetons in moderate ſized abſceſſes, which had not the appearance of breaking in the manner I could wiſh, with ſucceſs ; but the cure was never, as I remember, accelerated by this proceſs. When the tumor breaks in a ſuperior part, a depending orifice may be conveniently made by paſſ- When uſeful.

* See abſceſſes about the joints.

ing

ing a ſeton through it. In ſinuous ulcers following deep ſeated abſceſſes, where we cannot uſe the knife, on account of dividing muſcles, ligaments, or blood-veſſels, it will often in time bring about a cure without violence, if care be taken that the lower opening is larger than the thickneſs of the cord.

A man had a large abſceſs, formed under the flexor muſcles of the fore-arm, and pointed both at the elbow and wriſt. It was opened at both places, but bolſters, bandage, &c. could not effect a cure, and a ſeton was therefore paſſed, which in time had the deſired effect. Troubleſome abſceſſes, which formed under the *gaſtrocnemii* muſcles, have been readily cured when this aſſiſtant was introduced; and I have ſeveral times employed a ſmall ſeton in the ſinuous ulcer, which follows the abſceſſes, that paſſed from the hand under the annular

nular ligament to the wriſt, with a deſirable event. Its conſequence were equally fortunate in a boy, where an abſceſs had formed under the the *vaſtus externus* in the upper part of his thigh, and pointed in the groin near the head of the *ſartorius*; from whence a ſtrong iron-eyed probe, with a blunt point, could be paſſed to the outſide; and by cutting upon it, a cord was drawn through. Nor is it neceſſary to mention ſimilar inſtances, as they will point out the method which ought to be taken, when they preſent themſelves to our notice. In the abſceſs which opens the protid duct, all agree its uſe is indiſpenſable. In abſceſſes of the neck, face, and breaſt, which are expoſed, ſetons ſhould be employed; becauſe it is true, that they make a leſs ſcar than the lancet or knife. Indeed, it appears to me that each of theſe methods ſometimes deſerve preference, and I have advantageouſly uſed them

them both at the ſame time, in the manner of Le Dran, in very large abſceſſes, where a longitudinal inciſion could not remove lateral collections of matter. But by whatever method the matter is diſcharged, relaxing dreſſings ſhould be laid aſide as ſoon as the inflammation begins to diſappear; for theſe invite a flux to the part, and inſtead of a union with the ſubſtance underneath, ſordid ulcers, from the ſtagnating lymph becoming acrid, are the conſequence.

Pultices when to be laid aſide.

The ſkin, &c. therefore, which has been relaxed for the purpoſe of giving way to the matter, ſhould now be gradually ſtrengthened. The diachylon ointment may ſupply the place of the pultice round the ulcer, to the ulcer itſelf; if the matter is good, dry lint, but if acrid, mild balſam ſhould be applied, bolſters and bandage ſhould take place by degrees, and, when the ſenſibility of the part

And in what manner their place ſhould be ſupplied.

part will permit them, dry dreſſings, or cloths wet in cold water, will finiſh the cure ſooner, and better, than thoſe which have a ſoftening property. Strengthening internal medicines will alſo ſometimes be neceſſary; but of theſe we ſhall be more explicit in the eſſay on ulcers, and treat in the next chapter, on thoſe abſceſſes which are exceptions to the general rules laid down, or which require particular management; after taking notice of the nervous cough, which not uncommonly accompanies the forming of matter in any part of the body, to prevent our being led into a wrong method of treating the patient when troubled with this ſymptom.

Cough.

Now every cough ariſes from nervous affection, and may be ſaid to be nervous; but that we now allude to, proceeds from a diſeaſe in the nerves, independent of any flux, or obſtruction in the lungs; and the

the ſlighteſt irritation from the common air, from the natural mucus or lymph, or the moſt trivial cauſe, excites a fit of coughing. We have already obſerved *, that local inflammation, is always accompanied with an increaſed degree of irritability throughout the whole body; which, where the patient is ſtrong and healthful, is of the inflammatory kind, and brings on for a time an inflammatory fever, in a greater or leſs degree. We alſo obſerved †, that increaſed irritability from wounds and ulcers, ſubjects the patient to evening rigors and fever; and where the forming of matter is ſlow, in debilitated habits, a different kind of irritability, and the cough we are ſpeaking of is the conſequence ‡: owing to the nerves of the lungs being rendered more

* Vol. i. p. 297. † On Symp. of the nerves.

‡ This doctrine accounts for the cough attending the worms, diſeaſes of the liver, viſcera, &c.

irritable,

irritable, in general with the reſt of the body *. We formerly took notice, where this ſymptom came on, from an abſceſs in the hand and wriſt †. I have ſeveral times known a fit of coughing inſtantly brought on, when the nervous ſyſtem was preternaturally irritable, by irritating the nerves in the ear with an ear picker; fairly confirming the doctrine before taught, that by affecting any one part of the brain, we affect the whole.

A young man was emaciated, and had a violent dry cough for a long time, during the forming of an abſceſs about the rectum; and the cauſe not being known, he was ſuppoſed to be in a pulmonary conſumption, and treated accordingly. But upon the abſceſs ſhewing itſelf, and the tenſion being taken off, by diſcharging the matter, there was an end of this ſymptom which had given him much

* Vol. i. p. 175. † Ib. 177.

trouble. I have frequently obſerved theſe coughs in abſceſſes about the joints, but upon the cauſe being removed, they diſappeared.

A young woman had a white ſwelling in the knee, attended with foul bone and abſceſſes. She was greatly emaciated, had a violent cough, and ſpit up matter; which at that time gave us reaſon to apprehend the lungs were affected, and detered us from any thoughts of amputation. Nevertheleſs, the pain which this unfortunate girl bore, obliged her to ſeek after this remedy to procure eaſe; and at her earneſt requeſt, I performed the operation without any other proſpect. Yet contrary to all expectations, the cough very ſoon left her, and ſhe recovered; which hints may lead us to be very accurate in diſtinguiſhing one kind of cough from another, that we may not omit the aſſiſtance the art affords.

When

When a cough comes on upon the gathering taking place, the cauſe will often be obvious, if not accompanied with any other apparent diſeaſe; but in ſcrophulous joints attended with ſwelling in the glands of the neck, we muſt have an eye to tubercles in the lungs, and the ſymptoms which uſually attend them. A true nervous cough is frequently ſhort and quick, though ſometimes fierce and violent, or in weak habits, deep and hollow. At one time dry and others moiſt; for in irritations of the lungs, there is often a greater ſecretion of mucus or lymph than uſual, and theſe being inſpiſſated, reſemble matter ſpit up in conſumptions: but what we have already ſaid on this ſubject will lead us to diſtinguiſh different kinds of matter, and be ſome guide to us in our proceedings.

It is impoſſible to ſubdue the ſymptom we are ſpeaking of, till the irritability of

the habit is removed by diſcharging the matter, &c. from the abſceſs; but it may be mitigated by very ſmall doſes of laudanum or paregoric elixir; for though twenty of the former may be neceſſary to procure ſleep, yet one drop will allay the irritability of the whole habit, if repeated every three or four hours, by deadening the ſenſation of the nerves ſufficiently, without offending the ſtomach. It may be given in oil and ſyrup, or in the Saline Julep, if heat makes it neceſſary. But when heat is abſent, a decoction of myrrh is a more powerful aſſiſtant; the bowels being kept regularly open at the ſame time, and care taken to avoid, if poſſible, the breathing of air replete with effluvia that may irritate the lungs.

The effects of ſmall doſes of opium.

CHAP.

CHAP. IV.

ON ABSCESSES REQUIRING PARTICULAR TREATMENT.

THOUGH we are in general advocates for tumor coming to maturity, before the matter is diſcharged, we know the neceſſity there is of ſometimes opening abſceſſes before they are perfectly ripe; and of theſe we ſhall now treat in proper order.

Abſceſs under the aponeuroſis of the temporal muſcle.

If matter be mild, it ſeldom makes its way through membranes, and when formed under the aponeuroſis of the temporal muſcle, it ſometimes deſcends, by paſſing through the parts which make leſs reſiſtance into the mouth, and the cure becomes troubleſome; but by cutting freely through the membrane when the fluctuation is ſufficiently evident, we haſten the the recovery, and avoid much inconveni-

ence. I have ſeveral times known theſe abſceſſes, when formed on the upper part of the muſcle, diſcharge themſelves on the ſide of the face. I have had ſeveral in this ſituation brought to me, where ſinuſes and foul bone were the conſequence; but by laying the cavity open the whole length, and dreſſing the ulcer as particular circumſtances required, a cure followed.

Fiſtula lachrymalis.

Every abſceſs in the corner of the eye has been called, very improperly, a *fiſtula lachrymalis*; and much miſchief, I am perſuaded, has in many inſtances been done by ſyringing and probing, to remove an imaginary obſtruction, when the cauſe of the diſeaſe has not been in the naſal duct. But Mr. Pott has ſo thoroughly diſcuſſed this matter, that he has left very little for others to ſay upon the ſubject; and I ſhall only relate a few obſervations I have made on the diſeaſe, and what methods

methods have beſt ſucceeded in my practice.

It appears to me, that the ſimple dilatation of the lachrymal ſac, and ſkin over it, forming a ſmall uninflamed bag, which diſcharges lymph, mucus, or both, through the *puncta lachrymalia* upon being preſſed, is very properly named by the French *hydrops ſacculi lachrymalis*; as it ſeems to be often occaſioned in the ſame manner as other local dropſies, and no way depending upon an affection of the *ductus ad naſum*; becauſe it admits of the ſame kind of cure as other hydroceles, and becauſe, like them, it often continues ſeveral years, without much alteration or inconvenience. Hydrops ſacculi lachrymalis.

I have attempted the cure, by the inſtrument Fabricius, Scultetus, and Mr. Sharpe recommend, aſſiſted with aſtringent applications, without ſucceſs; but upon dividing the ſac with the point of a How cured.

lancet, and dreſſing ſimply, inflammation and digeſtion have come on, the ſkin has contracted, and a cure was the conſequence. And would not a ſeton with three or four threads of ſilk, be equally effectual?

Simple abſceſs.

When the tears run down the cheek, and a purulent abſceſs ſhews itſelf, I imagine the lachrymal ſac, and the membrane lining the paſſage to the noſe, are inflamed, and thickened; and I commonly apply a bit of ſticticum, or, where the inflammation is conſiderable, a white bread pultice, till the part either breaks or is ready to be opened. And when an inciſion is made the whole length of the ſac, the ulcer is dreſſed with a mild digeſtive balſam, lightly applied, and the moſt irritating dreſſing uſed is the honey of roſes, ſometimes with the addition of a little compound tincture of myrrh; the ulcer often becomes clean, and the membrane

brane lining the duct, if it was thickened or inflamed, probably ſubſides. I have repeatedly ſeen the ulcer heal without any any other treatment. I have even ſeveral times ſeen perfect ſucceſs in this inſtance, by a ſtill more ſimple proceſs in timerous people, who would not receive any aſſiſtance from a ſurgeon; by applying a ſoft mild plaſter, and renewing it occaſionally, till the abſceſs broke, and afterwards healed of its own accord: which ſeems to afford a hint that may be turned to good advantage, in the management of this diſorder.

Should theſe methods fail after due trial, and the ſore put on a fiſtulous aſpect, we may ſuſpect the *ductus ad naſum* to be firmly obſtructed, and that the obſtruction muſt be removed by other means, before a cure can be effected; remembering that if a venereal or ſcrophulous taint prevails, it muſt be properly attended to, or no good

The true fiſtula.

good can be done. After ſeeing the bougie, which irritates and inflames, and moſt of the methods tried which are recommended in the preſent exigency, the practice of paſſing a piece of lead of a proper length, and ſuited to the ſize and ſhape of the duct, in my judgment claimed preference; as it ſo fully anſwers the purpoſe, when perſevered in till it has reſtored the paſſage to its proper ſtate; which I imagine is accompliſhed by a conſtant and regular preſſure. The upper end of the lead ſhould have a thread or two of ſilk faſtened to it, that it may be puſhed lower than the ſurface, and be removed occaſionally to make the parts clean; otherwiſe when the lead riſes above the outward opening, the lips of the little ſore heal over or become callous, and the patient muſt have them pared off before he can be completely cured. I have not yet uſed Mr. Wathan's cannula, but I have not any doubt

doubt from what that gentleman has ſaid, of its anſwering the purpoſe, when ſuch kinds of aſſiſtance can afford relief.

Perforation through the bone, how to be treated.

It ſometimes happens that the above treatment is impracticable, and we are under the neceſſity of purſuing the method of making a perforation through the bone: yet even in this caſe, either a piece of lead, or Mr. Wathan's cannula, muſt be employed after the inflammation is gone off, till a callus is formed. Otherwiſe when the new fleſh riſes, the orifice lately made will cloſe up, and we ſhall have all the work to do over again. But it is quite unneceſſary to introduce ſpirit of vitriol, or lunar cauſtic daily for ſome time previous to its application; as the lead alone will be found fully ſufficient to prevent this happening. The readieſt cure of this ſort I ever made, was by firſt penetrating the os unguis in the common place, with a ſmall trocar, and then paring

ing away a great part of this bone with a ſmall blunt pointed knife. Nor was I under the neceſſity of uſing any other aſſiſtance than a tent of lint, which was gradually left off, as the parts ſhewed a diſpoſition to heal; and I had the pleaſure of ſeeing a complete recovery without any ſort of trouble.

I took the hint of making the opening in the bone, larger than common, from a cure which followed the coming away of the whole os unguis, and part of the adjoining bone, in a caries which came on after a fever. The tears were diſcharged through the opening after the abſceſs broke, till the foul bone became looſe and was taken away; and our buſineſs was then readily finiſhed with dry lint. In this inſtance, the diſeaſe ſeemed to begin at the bone, for the pain which I ſuppoſe aroſe from the adjoining membrane, was exquiſite before any inflammation appeared

ed

ed: otherwiſe foul bone is not very common, when an abſceſs is formed in the lachrymal ſac, &c. at leaſt I have not met with it often in my practice, and I obſerve it has not been met with frequently by others *; nor do I ſee it is to be expected, unleſs the matter is more acrid than it generally happens to be in this caſe.

Abſceſs of the eye.

From the corner of the eye, we are naturally led to the eye itſelf, where we not uncommonly find a ſmall abſceſs, betwixt the laminæ of the cornea, or ſclerotica, ſurrounded more or leſs by inflammation; which ſoon diſappears upon the tumor being pricked with the point of a lancet, in the manner St. Yves † recommends: nor are other remedies neceſſary than thoſe we have already mentioned in the chapter on Ophthalmia, to aſſiſt the cure.

* See Sharpe's Surgery, alſo Mr. Pott.

† Diſea. Eyes, p. 196. (Eng. Storkton)

When

When the abſceſs poſſeſſes the whole ſubſtance of the cornea, or when formed within the globe of the eye, to mitigate the inflammatory ſymptoms claims the chief attention. The eye often protrudes, forming what the Greeks call a proptoſis; and burſting of its own accord, a ſtaphyloma and blindneſs is of courſe the conſequence; though if pain makes it neceſſary, it may be opened by a lancet with relief, and without any poſſibility of injuring the patient.

Abſceſſes of the parotid glands.

Purulent abſceſſes which are common to the parotid maxillary glands, ſhould be diſtinguiſhed from lymphatical abſceſſes of theſe parts, which alſo ſometimes ſuppurate, becauſe they frequently require ſeparate treatment. Of the latter we ſhall have occaſion to ſpeak hereafter, and before we conſider the other, it ſeems neceſſary to examine in what manner purulent abſceſſes of the lymphatic glands in general

general happen *, that we may entertain clear ideas of the methods which ought to be taken to effect a cure; eſpecially, as the old notions of their being occaſioned by immediate depoſit of morbific matter into the glands, ſeems to be erroneous, becauſe it can only be brought about by a retrograde motion in their excretory ducts, which being perfectly contrary to nature, very rarely I ſuppoſe happens in the proceſs of the animal œconomy.

Indeed, we have already hinted at the manner in which we apprehend critical abſceſſes in the cellular membrane, and in the lymphatic glands were formed †; and we may now recollect what is very well known, that fluids paſſing through the latter, move from the circumference to the centre; that in an healthy ſtate their paſſage is accompliſhed without incon-

* See vol. i, chap. 2. p. 318.

† See former chap.

venience,

venience, but when they poſſeſs acrimony, tumor, inflammation, and abſceſs in proportion to its virulence, are not any uncommon conſequence, as inoculation, the venereal bubo, abſorption from putrid ulcers, and a variety of other inſtances demonſtrate.

Inflammation then is a certain criterion, of the fluids paſſing through lymphatic glands being acrid. It appears too, that every critical abſceſs in them, is formed by abſorption from the cellular membrane, in the ſame manner, as in the axilla from inoculation, &c. and though in the beginning of this kind of inflammation, while the veſſels are ſound, and the juices confined in them, diſcuſſion may often be made to take place; yet the queſtion is whether the diſeaſe ought to be diſperſed or not? becauſe by diſperſion, we manifeſtly force morbid matter into the blood, which may be productive of very ill conſequences,

Whether they ought to be repelled.

ſequences. Sir John Pringle informs us that a mate in a hoſpital, in which there was a malignant fever, had a ſwelling of both parotids without any previous indiſpoſition; when not ſuſpecting the cauſe, and applying diſcutient cataplaſms, he was immediately, upon the ſubſiding of the tumors, ſeized with the fever then prevailing in that place. Probably becauſe the miaſmata, which had been taken into theſe glands by their lymphatics, were ſet at liberty, and eſcaped into the circulation; and is it not juſt the ſame thing, making allowance for different kind of virulence, when the glands are loaded with acrid fluids, ſeparated from the blood?

Dr. Ruſſell * tells us of a youth, who had a critical ſwelling of the tonſils, which ſubſided upon taking a doſe of

* Oecon. of Nature, p. 116.

ſalts; but a moſt dangerous fever ſuc
ceeded with inflammation of his lungs
pain of his ſide, a ſcarlet eruption al
over his breaſt, neck, and face, from
which after ſeventeen days, he eſcape
with the greateſt hazard of his life. Bu
in a ſubſequent caſe of a critical ſwellin
of the teſticles, which ſubſided upo
bleeding and purging; a new fever aroſe
the man became delirious and died in
few days *. I have before mentione
ſome fatal inſtances of this kind, an
have ſeen others, which, though they di
not kill the patient, I verily believ
brought on an ill ſtate of health in ſom
and diſeaſes of the joints, &c. in others.

In what manner they ought to be treated.

For my own part, I think critica
ſwellings in the glands, ſhould be left a
much as poſſible to nature; a mild ſo
plaſter only being applied to keep th
part from becoming dry and hard. If th

* Chap. iii.

obſtructe

Obſtructed fluids are ſomewhat acrid, yet are incapable of corroding the veſſels they ſtagnate in, the inflammation will probably diſperſe, from their getting at liberty, and paſſing into the circulation, without the power of doing much injury.

On the contrary, when the ſtagnating lymph is very acrid, makes its way into the adjoining cellular membrane, and the gland ſuppurates; the inflammation, I imagine by obſtructing the veſſels, prevents the abſorption of much matter, and the irritation during the gathering, with the ſubſequent drain, after the breaking of the tumor, eſtabliſhes health, if care be taken to provide againſt the abſorption of matter from the ulcer, which ſhould be kept open, till an healthful ſtate of the fibres ſhews it to be no longer neceſſary.

By what means they become critical.

But thoſe who are fond of diſperſing every kind of ſwelling in the glands, may ſay, are not ſwellings of the inguinal

glands daily diſperſed with ſafety, by rubbing in mercury below the part? and had we always an antidote to the virus, the practice might be purſued with advantage. But though mercury is a ſpecific againſt the venereal poiſon, it has no power over the virus of a cancer, none over that ſeparated from the blood in fevers, nor many more with which we are acquainted: and, until we can correct matter before we ſet it at liberty, it ſeems beſt to purſue that method which nature herſelf adopts, eſpecially as in theſe caſes, it is very frequently attended with perfect ſafety.

When not critical.

However, the parotid glands do not always ſuppurate kindly; for though in the beginning the tumor ſhews ſigns of ſuppuration, yet the fluid being inſpiſſated as it collects, a kind of hardneſs ſucceeds, and I believe if left to nature, induration would be the conſequence: becauſe, upon opening, we find it full of inactive

active viſcid lymph, incapable of making its way out. But I do not imagine that letting out this kind of matter at any period, can make them critical, as the nature of it, and the ſmall quantity diſcharged, is inſufficient for the purpoſe; and am therefore inclined to think with Riverius *, when they happen at the decline of fevers without any benefit, it is owing to the criſis being incomplete. It is to no purpoſe to wait for the breaking of theſe tumors, I have found it beſt to open them the whole length, while ſome kind of ſoftneſs can be felt; and by dreſſing with digeſtives or precipitate, as the caſe may require, we tend to render them critical, and prevent a tedious and imperfect cure.

Abſceſs in the cheek.

In the cure of the abſceſs in the cheek, which opens the parotid duct, the uſe of

* De Feb. Peſtilen. lib. xvii. cap. 1. ſub finem; ſee alſo Pringle Ob. p. iii. p. 276.

Abſceſs in the cheek.

the ſeton is well known and acknowledged, in preventing a fiſtula, by keeping a paſſage open for the ſaliva into the mouth, &c. and I can ſay in favour of this practice, that having employed a piece of catgut, till a calloſity has taken place quite through the cheek, I have ſeveral times ſeen the patient get well, upon removing the cord, by pinching up the ſkin, and paring off the external edges of the ulcer with a lancet. But I prefer curing the wound by the firſt intention, with ſticking plaſter, Fryar's balſam, &c. becauſe it at once prevents any part of the ſaliva paſſing outwardly, occaſions a ſpeedy cure, and is void of thoſe difficulties which may attend the method of cure Le Dran recommends *.

Abſceſs in the antrum maxillare.

In Drake's Syſtem of Anatomy †, publiſhed in the beginning of this century, we find a curious account of the abſceſs

* Conſultations. † Vol. ii. p. 535, and ſeq.

in

in the *antrum maxillare*, being firſt diſcovered by accident: ſince which time, the ſymptoms and the cure, by extracting a tooth, piercing the cavity to let out the matter, uſing injections, and applying a cannula, &c. have been well known. Sometimes extracting a tooth is all that is neceſſary; as I lately ſaw in a man, who had long undergone great pain in the ſide of the upper jaw, with a ſwelling apparently of the bone, which conſtitutes the outſide of this cavity. But one of the bicuſpides * being drawn, above half a tea cupful of matter followed, and he got well without any farther trouble, except a diſcharge for ſome time.

Lymphatic abſceſs in this cavity.

But there is another diſeaſe of this part, which has not as far as I remember been noticed. The firſt ſymptom the patient perceives of his complaint, is a ſwelling in conſequence of lymph being gradually

* See Hunter on the Teeth.

collected in this cavity without inflammation or pain, diſtending the bone till it becomes as thin as parchment, and ſometimes forming a tumor under the upper lip, of a very large ſize. It differs very much from the purulent abſceſs in the antrum, which always I believe begins with deep-ſeated pain, and is attended more or leſs with the ſymptoms uſual to inflammatory gatherings, none of which appear while the air is excluded. Nor can it be miſtaken for the abſceſs which forms higher up, betwixt the cheek and the bone like a gum-boil; for it may always be known by its appearance, ſituation, and reſiſtance to the touch.

I have readily let out the lymph which is ſometimes glutinous, by cutting out a piece of the bone with the lancet; or when too ſtrong for this inſtrument, or a knife, I have made an opening with a ſmall trephine, and by daily injecting, without force,

tincture

tincture of myrrh and chamomile tea, or waſhing the cavity with an armed probe dipped in this mixture, and afterwards applying honey of roſes, and tincture of myrrh united upon lint; the tumor ſubſides in time, and the patient does well: but care muſt be taken to keep the cavity as clean as poſſible, otherwiſe air getting admittance, and being confined, it changes the fluid, which has hitherto been mild and inoffenſive (except from quantity), into a corroſive ichor, which may bring on troubleſome ſymptoms.

Gum-boil and fiſtula in the chin.

Every ſurgeon and every dentiſt, in any tolerable ſhare of buſineſs, muſt well know, there is a gum-boil in conſequence of a rotten tooth, in the lower jaw, which never fails to form a ſmall fiſtulous ulcer in the ſide of the chin, that remains, though it be ſeveral years, till the tooth is extracted, and then readily heals. Yet I have lately ſeen more than one inſtance, where this

this ulcer has been treated as a cancer, and the patient forced to undergo a courſe of internal medicines, till the tooth-drawer by his operation, has ſhewn it would have been much better, to have thrown the bane of Socrates upon the dunghill, than to have given it an opportunity of injuring the organs of digeſtion.

Quinſey. Heiſter ſays, a quinſey is one of thoſe diſeaſes which require the operation of bronchotomy, when it reſiſts evacuations and endangers ſuffocation: but if by quinſey he means the *angina inflammatoria*, which takes it riſe in the tonſils, I imagine there will very rarely be a neceſſity for ſuch practice. For in more than the ſpace of forty years, I never knew a patient die of this complaint, except one, where a mortification came on, in conſequence of ſyringing*. Nor did I ever hear of this operation being performed in the circle

* See Vol. i. p. 392.

of

of my acquaintance; and I believe it to be of very little ſervice* in any inſtance of this kind.

When theſe glands ſuppurate, it is well known they ſometimes become very large, and render inſpiration difficult; but the breaking of the tumor commonly puts an end to the complaint, or if neceſſary, it may be very ſafely opened by a lancet conducted in a ſilver cannula. Indeed, I once ſaw a ſwelling of this kind endanger the patient, but by introducing a piece of wood betwixt the teeth, and making a puncture, inſtant relief followed a diſcharge of matter. I have alſo ſometimes given immediate relief by ſcarifying the glands with the point of a lancet, and occaſioning a diſcharge of blood; after which the matter has commonly made its way in a few hours, through one or more of the ſcarifications. But ſuppuration ſhould

* Read Mr. Sharpe on Bronchotomy. Chir. Operat.

always

To be diſcuſſed by promoting a diſcharge from the gland, in the beginning, if poſſible.

always if poſſible, be prevented; diſcuſſion being the proper method to be purſued in inflammation of theſe parts: and it may moſtly be accompliſhed, when we are called in time, becauſe the obſtructed fluids may often be made to diſcharge themſelves, immediately from the affected part.

We have already diſtinguiſhed the *angina inflammatoria* from others *, and have in ſome meaſure pointed out our method of treating it. We bleed if the pulſe demands this evacuation; ſaline purges are given, and repeated, as the inflammation is more or leſs violent. On the intermediate days, ſmall doſes of laudanum, frequently repeated, in a ſaline julep, helps I think to ſtop the progreſs of the diſeaſe, probably by leſſening irritability. The ſtibicum, or Sir John Pringle's mixture of ſpirit of hartſhorn, is externally applied, and I think the gargariſm he recommends of a

By what method.

* Vol. i. p. 402.

decoction

decoction of figs in milk and water with the addition of ſpirit of ſal ammoniac, a good remedy: bliſters may be uſeful for aught that I know, but I have never employed them, my chief dependence being in making a diſcharge from the affected part, by the powders already mentioned. I know of no other remedy ſo certain in its effects; and when I call to mind the great numbers of people relieved by them, when ſteadily perſevered in with the aſſiſtance of barley water, I cannot help giving them preference to emetic tartar, and other modern treatment uſed on this occaſion. Inflamed parts it is agreed, ſhould be irritated as little as poſſible, and this rule cannot be more properly obſerved, in any inſtance than this; both on account of the ſituation of the inflammation, and of the nerves being much expoſed. Conſequently, whether the inflammation diſperſes or breaks, emollient gargariſms ſhould chiefly be uſed; and ſhould it be apprehended by

by theoriſts, that nitre may irritate ſo as to do injury, I can anſwer when uſed in ſmall quantity, in the manner adviſed, it for the moſt part does ſervice, and without ever as I could obſerve doing any harm. I know a lady who was ſubject to this kind of *angina*, which ſhe prevented, after being troubled with it at times for many years, by waſhing her throat with Hungary water, upon its beginning to be ſore; and the diſorder ſeems now to have left her entirely, owing probably to the nerves being rendered leſs ſenſible to irritation, by this application.

Hungary water its effects in this inſtance.

Angina externa.

Abſceſſes in the ſide of the throat frequently break outwardly, or, when ripe, may be opened with ſafety; but are ſometimes followed by a diſagreeable ulcer for a time, in conſequence of the juices becoming acrid, which are diſcharged into the ſore, from the neighbouring glands. But it is ſometimes neceſſary to open theſe tumors before they are ripe, to prevent ſuffocation.

A gen-

A gentleman had a ſwelling with inflammation near the edge of the lower jaw, on the right ſide of the throat, which ſoon extended itſelf to the other ſide, and became ſo great, that we had juſt reaſon to apprehend his being ſuffocated, if it continued to increaſe in ſize much longer; for it had already affected his breathing violently, and he was almoſt choaked with phlegm, from preſſure upon the windpipe. It had the appearance of ſuppurating, and a ſmall quantity of matter ſeemed to fluctuate under the teguments; but ſo very deep, that we durſt not think of cutting into the ſide of the throat, where it was perceived, on account of the carotid artery. However, as no time could be loſt, I was determined if poſſible to make a drain from the part; for which purpoſe I made an inciſion at the lower part of the tumor in the middle betwixt the ſterno-hyoides, was fortunate

fortunate enough to reach the matter that had formed, and its gradual diſcharge put the patient out of all ſort of danger: but the hardneſs which would have been diſſolved down, could the tumor have been ſuffered to become perfectly ripe, was troubleſome, and long in being ſubdued. Could diſcuſſion have been made to take place in the beginning, it would have been a deſirable event in this caſe, but nature could not be diverted from purſuing her own courſe.

Abſceſs in the axilla.

Abſceſſes in the axilla require no particular treatment, if they are ſuffered to become perfectly ripe, the opening made ſufficiently large, and the lips of the ulcer not diſtended unreaſonably with the dreſſings. But abſceſſes in the breaſt, are of different kinds, and require very different management from each other, there being

The

The encyſted
The common
The glandular
The chronic and lymphatic
} Abſceſs.

In the breaſts, the kinds.

which we ſhall notice in their order.

The encyſted is a purulent abſceſs, formed betwixt the glandular ſubſtance of the breaſt and the pectoral muſcle; is often ſlow in its progreſs, the breaſt enlarging in a globular form, and frequently with little or no inflammation or pain: nor does any matter fluctuate, till by its preſſure the ſubſtance of the breaſt becomes very thin, and it ſometimes then makes its own way out; but if proper care is not taken, diſagreeable fiſtulas are often the conſequence. Encyſted.

I have ſometimes cured them, by making a large inciſion croſs ways at the bottom of the breaſt, and paſſing a ſeton from above under the glands, to keep the ulcer open and prevent a fiſtula; and even

fiſtulas of long ſtanding have healed by this treatment; but when different ſinuſes have happened, I have found it neceſſary to lay them open to finiſh the buſineſs.

A woman came to me with one of theſe tumors of an enormous ſize indeed. It had withſtood various applications for the ſpace of two years, and at laſt, being taken for a cancer, had been treated accordingly. The ſkin was become rough, and the whole tumor felt as hard as a board; but it was different from a ſcirrhus, and an equality in its appearance, induced me to think it did not belong to the tribe in which it had been ranked. I applied an emollient pultice, which in a little time ſomewhat ſoftened the ſkin, and gave me an opportunity of juſt diſcovering a deep ſeated fluctuation. Wherefore I made a puncture with a lancet, in the bottom of the breaſt, and a very large quantity of tolerable

tolerable good matter was diſcharged. But though this opening was enlarged very much, we were obliged to make two or three more before we could bring about a cure.

Venal hæmorrhage when it happens in opening breaſts, and how to prevent it.

Now when the parts covering the matter are become thin, it is very well known that opening, when neceſſary, may be made with ſafety. But in deep abſceſſes in pendulous breaſts, a dangerous venal hæmorrhage, unleſs prevented, is not an uncommon conſequence, from the weight compreſſing theſe veſſels, and hindering the blood in its return to the heart. Under ſuch circumſtances therefore, the breaſt ſhould be ſupported by a proper bandage, and no inconvenience from loſs of blood will in general enſue. And notwithſtanding abſceſſes of the breaſt may have been laid open properly, ſo that no matter could lodge; yet where relaxing cataplaſms have been long continued, I

obſerve a greater degree of heat ſometimes remains than there ought to be. The lips of the ulcer are inflamed, the ulcer itſelf is ſordid without the leaſt inclination to heal; owing I imagine to the weakneſs of the veſſels, and to the fluids which ſtagnate in them acquiring acrimony; becauſe upon applying linen cloth four doubled, wet in cold water *, and renewing them twice a day, without any ſort of ointment, except a little mild balſam upon lint, to the bottom of the ſore, a complete recovery in a few weeks has repeatedly taken place, where a glowing heat accompanied its uſe.

One effect of relaxing cataplaſms long continued.

Common abſceſs.

The common abſceſs is owing to a diſeaſe in the cellular membrane, both in married and unmarried women; in which the ſkin at firſt is equally diſtended, and accompanied with pain and inflammation, without any hardneſs in the glands: in

* More of the uſe of cold water hereafter.

the

the ſame manner as happens to this complaint in any other part of the body, nor is there any thing particular required in the cure.

Glandular abſceſs.

The glandular abſceſs, is that which happens to lying-in women, from an obſtruction of the mammary glands, and ſtagnating fluids acquiring acrimony. It begins with one or more knotty hardneſſes in the breaſt, without any remarkable pain or tenſion of the ſkin, till the *membrana adipoſa* is affected, and it then puts on the common globular appearance, which muſt again be diſtinguiſhed from the turgency occaſioned by a large flow of milk.

Diſperſion to be purſued in the beginning.

In this inſtance, the fluids not being extravaſated, or altered from a mild ſtate for ſome time, we ought at firſt if poſſible to render the glands pervious, and put an end to the malady by diſperſion; for which purpoſe, the bowels ſhould be opened by clyſters, or rather where the

patient can bear it, by a drachm or two of Rochelle ſalts given daily, in thick gruel ſo as to procure two looſe ſtools in twenty-four hours: for theſe remedies do not only occaſion evacuation, but being taken thus gradually into the habit, they more or leſs render the whole ſtate of the veſſels pervious. When purging cannot be borne, the neutral diuretic ſalts uſually aſſiſt by promoting urine. The breaſt ſhould be well drawn, and cloths wet in cool-drawn linſeed-oil made warm applied; which from its effects, I apprehend has power of removing at leaſt ſlight obſtruction: but when the ſwelling and obſtruction is great, I have uſed the ſolution Mr. Juſtamond recommends * with ſucceſs, and think it a powerful and very uſeful remedy.

* Sal. ammon. unc. tres, aq. pura. lib. unam; deinde adde aq. Hungar. lib. unam.

Nevertheleſs

Nevertheleſs, in oppoſition to theſe efforts in hope of affording relief, the ſtagnating fluids will ſometimes become acrid, make their way through the glands, and ſeizing upon the *membrana adipoſa*, &c. produce an abſceſs: and when the ſymptoms of ſuppuration begin to appear, diſperſion is no longer to be thought on, but nature is to be aſſiſted in bringing the tumor to a head. But it muſt be obſerved, that theſe abſceſſes ought to be treated very differently from what has been generally practiſed; for the long continued uſe of emollient pultices occaſions a relaxion of the glands, gathering after gathering, and conſequently much more cutting than would have been neceſſary under proper management. Wherever I can uſe it with propriety, I prefer a well made honey pultice; becauſe it keeps the parts ſoft without relaxing too much, and kindly promotes ſuppuration: and yet when the inflammation riſes very high,

When th ſuppurate how to be treated.

I adviſe the white bread cataplaſm, becauſe it is more cooling, till the abſceſs becomes perfectly ripe and breaks of its own accord. But, upon the ſubſiding of the ſwelling and inflammation, the honey pultice ſhould again take place; all remaining hardneſs will diſappear under its uſe, and if the diſcharge be ſuffered to take its own courſe, a happy iſſue will often be the conſequence; unleſs it happens that the place where it breaks, is not in a depending part, for then a counter opening may ſometimes be neceſſary.

Being informed of many cures peformed in abſceſſes of the breaſt after childbirth, by a lady who lived in this neighbourhood, I obtained a copy of the preſcription, from which her ſalve was made. It conſiſted of pitch, bees wax, a little frankincenſe and oil, enough to make it into a ſoft plaſter; which being ſpread upon leather, was applied to the part where

where it remained, unleſs a freſh one was wanted, till the tumor broke. It was then taken off daily, but laid on again as ſoon as the matter was wiped away, and a hole was cut in the plaſter oppoſite the ſore, that as little matter as poſſible might be confined, betwixt the times of dreſſing: nor was a new plaſter applied while the old one was capable of doing ſervice. If more abſceſſes formed and broke, they were treated in the ſame manner, and, without any other proceſs, an eaſy recovery was the common conſequence; which was attributed to a ſpecific property in the remedy, and gained it the reputation of being infallible, both far and near. Yet we apprehend the method before recommended is preferable, from being varied as pain, and other circumſtances require; nevertheleſs, we learn the advantage of not relaxing too much

much, and how ſeldom a cutting inſtrument ſhould be employed in this diſeaſe.

Chronic abſceſs.

There are chronic purulent abſceſſes in the breaſts of women, ariſing from an indurated gland, which have frequently I am perſuaded been taken for ſcirrh; and credit has been given both to internal and external remedies, for the cure of cancers, when the diſorder has taken its own natural courſe, and ended by diſperſion or ſuppuration. It is well known that every ſcirrhus is an induration, but every induration is not a ſcirrhus; the buſineſs is to diſtinguiſh one from the other, and there is no caſe in which the *tactus eruditus* is more ſerviceable; words being inadequate to the purpoſe. An induration will feel curdled to the touch, but has not the ſtony hardneſs of a ſcirrhus; it is in general ſmoother, but in other reſpects they reſemble each other very

very much, though experience will in time make the difference familiar.

Early in my practice, a woman applied to me with one of theſe tumors of many years ſtanding. It had always been attended with obtuſe ſhooting pains, was then become large, and the pain much increaſed; yet it was perfectly moveable, and many ſurgeons had taken it for a ſcirrhus, nor was I able at that time, to differ from their opinion: wherefore I perſuaded her to let me take it out, but inſtead of a ſcirrhus, I found a large quantity of good matter, incloſed within a very thick, and hard cyſt, made of the parts which compoſe the ſubſtance of the breaſt, and I have ſince met with ſeveral ſimilar inſtances.

In the beginning, where the tumor is not deep ſeated, we are ſometimes fortunate enough to put an end to theſe diſeaſes, by removing the obſtruction with the

the ſtiĉticum, Heiſter,* and others before him, it ſhould be remembered, ſay the ſame application diſperſes ſcirrhi, but I rather apprehend they were miſtaken about the nature of the tumor, and that it was the diſeaſe in queſtion, in which it was ſucceſsful; becauſe I believe a ſcirrhus never was, nor ever will be cured by any other method than a removal of the diſeaſed parts. I do not remember ever ſeeing any effects from internal medicines in theſe obſtructions, and I have tried many. Sal ſodæ and the bark united, have often been found uſeful in ſecuring the glands, they alſo keep up the appetite and preſerve ſtrength, which is a material circumſtance, where the patient is to undergo the diſcipline of the diſpenſary.

Nevertheleſs, when the fluids become extravaſated in the gland, attempts to diſ-

* De. Scirrho.

cuſs

cuſs do not avail; but though the tumor does not diſperſe, yet when it is ſuperficial, I continue the ſame application till it is ripe.

It muſt be obſerved however, that bringing this kind of purulent abſceſs to ripeneſs when it is deep ſeated, is a tedious buſineſs, and may be the work of years. The beſt way is to take out the whole hardneſs including the matter, while it is ſmall; for though theſe abſceſſes may ſuppurate, break, and heal, yet I obſerve, where the hardened parts are not wholly removed by the knife, or eſcharotics, they are apt afterwards to become a true ſcirrhus, and in a little time, a cancer. Whereas when they are taken away, we run no hazard of leaving the ſeeds of this horrible diſeaſe behind; and in every ſuch inſtance that I have ſeen, a permanent cure has been the conſequence.

The

Lympha-tic abſceſs.

The lymphatic abſceſs begins with a remarkable hardneſs in the gland, is very ſmooth, void of inflammation and pain for a great length of time; it is very rarely deep ſeated, and a fluctuation may moſtly be felt. It is often long in getting well after it is opened, but the hardneſs never fails to diſappear by the application of a ſoft lead plaſter, and a mild digeſtive, if care be taken to prevent as much as poſſible the intruſion of air; otherwiſe the lymph will be converted into an ichor, and an inflammation may follow, that will require a farther opening, to ſet the confined air at liberty, and put an end to this ſymptom.

Many years ſince, I had my doubts about one of theſe tumors, owing to its being without fluctuation, and very hard; but was happy when I had taken it out, to find it full of a roapy lymph, becauſe this differs ſo very much from the corro-

ſive ichor, found in ſcirrhous tumors. This young woman had a ſimilar tumor in the other breaſt ſome time afterward, and knowing its contents, we laid on the *emplaſtrum de minio fuſcum*, and let it alone. In time the lymph by continual diſtenſion made its way out, and ſimple dreſſings finiſhed the cure. I have ſeveral times opened theſe tumors, nor, do I remember ſeeing one of them thus treated which did not terminate in favor of the patient.

We have mentioned the propriety of carrying off the matter in an empyema, by abſorption, and we ſhall preſently ſhew that this ſometimes happens: but the difficulty ariſes from the uncertainty of putting the abſorbent ſyſtem into action, unleſs we can deduce any practice from nervous agitation, which often occaſions the lymphatics to abſorb matter out of cavities, or to diſcharge their contents. The former

Empyema.

former we have given an inſtance of, and the latter is known to happen in thoſe diarrhæas, which ſuddenly come on upon the mind being impreſſed with diſtreſſing or alarming ideas. But much has lately been ſaid of the power of Fox-glove, in promoting abſorption; and I ſee no reaſon why it may not be tried *. But this muſt

* Being informed, twelve or fourteen years ago, of the manner of giving a decoction of the root of fox-glove (an ounce to a pint) in dropſies, at Oxford; I have preſcribed it occaſionally ever ſince, ſometimes with very deſirable ſucceſs, and often without any effect at all. I have alſo often tried the leaf, without any material difference that I could diſcover, except, that the root appears to be a milder remedy, and perfectly free from creating nauſea, or any diſagreeable ſymptom. Perhaps the different effects of this remedy, may be owing to obſtruction it is incapable of removing, or to the ſtate of the nerves, which in ſome conſtitutions, or under particular circumſtances, may be incapable of receiving the impreſſion it uſually makes: of courſe the lymphatics will not be put into action; which ſeems to be a deſideratum of more conſequence, than in what part of the body the water

muſt be done with caution, for the ſedative power it exerts, after ſtimulating, if I am rightly informed, has ſometimes been fatal; and the practice of giving ſmall doſes, ſhould therefore be ſtrictly obſerved. But though a very powerful medicine, its effects are uncertain, and we apprehend letting out the matter betwixt the ribs, as adviſed by various writers, may ſtill often, if not always, be the moſt certain way of affording the patient relief. Mr. Warren* has given ſome very in-

water lodges; for if we can diſcover under what circumſtances it promotes abſorption, and when not, we ſhall know when to order it and when to have recourſe to other remedies. I have ſeen broom aſhes, for inſtance, in wine, cure a dropſy, when fox-glove had a fair trial, without any effect. I ſuppoſe from a different kind of ſtimulus being neceſſary, and by joining deobſtruents to fox-glove (emetic *tartar*) I have ſucceeded completely in the cure of an hydrothorax, when fox-glove alone was ineffectual; and have known this diſorder evade the power of both theſe remedies.

* Caſes in Surgery.

ſtructive leſſons on this head; and Dr. Hunter, who opened more dead bodies than moſt men, thinks this procedure adviſeable. I join theſe gentlemen in opinion that it will ſave many lives, where the collection of matter is owing to ſimple inflammation, and a greater ſecretion of lymph than ordinary; where the lungs are ſound, and the diſcharge not interrupted by adheſion to the ſide of the cheſt; by preventing ſuffocation, or matter acquiring acrimony, and injuring the viſcera, before it can make its way through the intercoſtal muſcles *.

A woman about thirty years of age, had an *empyema* in her left ſide, and being ſix months gone with child, the cough and difficulty of breathing, were exceeding troubleſome; nor did there ſeem any poſſibility of her living, or going her time, unleſs theſe ſymptoms were reliev-

* See Morgagni, epiſt. 22. art. 6. 8, 10, 12, 22.

ed. That ſide was elevated, the ribs were ſeparated at greater diſtances from each other than uſual, and a fluctuation under the intercoſtal muſcles was juſt perceivable. I made an inciſion into the thorax in the uſual manner, a large quantity of thin fœted matter was diſcharged, and the patient inſtantly relieved. But the running continued till after ſhe was brought to bed; and though it was ſo hot and acrid, as to excoriate all the parts upon which it drained, yet ſhe afterwards got perfectly well, and bore more children.

In this inſtance the matter ſeemed to be diffuſed; but when the diſeaſe is attended with a fixed pain, and the part principally affected appears thicker than ordinary, the pleura commonly adheres to the lungs, in which an abſceſs is formed, that can only be emptied at the place the ſwelling and pain point out; and if there is

danger of ſuffocation, an opening may be made for the purpoſe, otherwiſe it ſeems better to leave this work to nature. For in every inſtance that has come to my knowledge, where the lungs were affected with a ſcrophulous taint, the patient in the end died of a pulmonary conſumption, notwithſtanding the aſſiſtance of milk-diet, and the remedies uſually given on ſuch occaſions.

Adheſions of the lungs are known to happen in every part of the cheſt; conſequently when theſe abſceſſes take place, they are formed in the ſame manner. I have ſeveral times, in conſumptive people, ſeen matter from the cheſt, from an uninflamed bag upon the deltoide muſcle, or in the axilla; and from a large diſcharge, death has always been the conſequence. I have thought whether making a depending opening betwixt the ribs, might not prevent this kind of termination; but in every

every inſtance of this ſort I have met with, the ribs were not elevated or dilated, there were no ſigns of matter in the lower part of the cheſt, and imagining it to be confined by adheſions I have always been deterred from an operation which I expected would prove uſeleſs.

Theſe remarks, however, are not to extend to encyſted abſceſſes, which ſometimes happen in the cheſt; or to abſceſſes formed betwixt the pleura and intercoſtal muſcles, which point outwardly, and are opened and cured. Le Dran * gives us inſtances of theſe ſorts, with an account of the ſymptoms, and other uſeful reflections on the ſubject. Mr. Gooch † notices a ſimilar caſe ariſing originally from a bruiſe; my own practice alſo, has given me an opportunity of confirming the opinion theſe gentlemen advance. I ob-

Encyſted abſceſſes in the cheſt.

* Ob. 33 & ſeq. † Caſes and Remarks vol. i. p. 139.

ſerve the adjoining rib being foul is not very uncommon †, and may no doubt ſometimes occaſion the complaint; at other times no diſeaſe in the rib happens, and I have ſeen them ariſe ſlowly without inflammation, pain, or cough, and the patient has gradually recovered upon the matter being diſcharged. But to whatever cauſe abſceſſes of the cheſt are owing, the topical treatment is nearly the ſame; for the external opening muſt not be ſuffered to grow up while there is any diſcharge, and the reſt will chiefly depend upon nature.

A man about thirty years of age, came to me with an abſceſs on the right ſide of the *ſternum*, accompanied with pain, a cough, difficulty of breathing, and hectic ſymptoms; upon letting out the matter, though the pleura was apparently uninjured, yet I found one of the ribs foul.

† See Carious Bones.

The

The ſymptoms however were mitigated by this operation, but far from being intirely removed; the cough and a purulent ſpitting remained, a pain and weight under the lower part of the *ſternum*, ſtill occaſioned great uneaſineſs; the diſcharge from the ulcer, at the ſubſequent dreſſings, was much greater than we had reaſon to expect; and by paſſing a curved probe, I diſcovered the *mediaſtinum* was in a great meaſure the ſeat of the diſeaſe, and that the aperture from under the bone, was not in a depending part. Wherefore, after removing the ſkin, &c. I applied the trephine to the *ſternum* twice, in ſuch a manner as to make one opening rather more than an inch long, through which the matter all drained away freely, and the man perfectly recovered in due time. Nor do I know of any particular caution in performing this operation, unleſs it is

Abſceſs in the mediaſtinum.

to be remembered that the bone is very readily ſawn through.

Hepatitis. It is well known ſuppuration is often prevented in a hepatitis by bleeding, purging ſaline deobſtruents, opium, warm fomentations, and bliſters upon the part; if employed while the obſtructed fluids are confined to their own veſſels, and before they have injured or diſſolved the parenchymatous part of this viſcus: and when the external membrane is inflamed, the pain and fever commonly induce the patient to call for ſpeedy and active aſſiſtance. On the contrary, when the *parenchyma* is the ſeat of the malady, the ſymptoms are more obſcure, the pain, as happens in the internal inflammation of other glands, is rather obtuſe than violent; and though the pulſe keeps up perhaps at 120, the heat of the ſkin is not much above the natural ſtandard: which I am fearful, has ſometimes occaſioned the diſeaſe

eaſe to be overlooked in the beginning, and a neglect of the remedies which might have hindered its becoming chronical, and terminating in an abſceſs. Becauſe in every inſtance of this ſort, I have ſeen, where remedies were uſed in time, the diſeaſe was cured by diſcuſſion; and wherever ſuch a pulſe is diſcovered, accompanied with an inward pain (more or leſs) of the glandular or parenchymatous parts, I believe we may be certain that an obſtruction exiſts, which ought to be removed as ſoon as poſſible; and that the ſlight degree of pain and heat, and ſlowneſs towards maturity, ariſe from the inward part of the glands and parenchymatous ſubſtances not being very ſenſible of irritation.

Abſceſs in the liver.

I have never met with an inſtance in my own practice, where an abſceſs in the ſubſtance of the liver broke outwardly, though I have known an abſceſs formed, about

about the loweſt ſpurious rib on the left ſide, by a large red worm paſſing through the biliary ducts. The tumor had broke, and diſcharged a conſiderable quantity of matter, before I ſaw the man, and the ulcer had degenerated into a fiſtula; but by the quantity of bile that daily came away along with matter, the ſource of the diſeaſe was evident. I dilated the orifice a little, to give a free exit to the diſcharge, and in three or four days afterwards, a living worm ſhewed itſelf which was taken away, and the ſore healed in a moderate time. The man could give no account of his feelings, except that he had a deep, dull pain, and uneaſineſs in his left ſide below the cheſt, ſome time before the gathering appeared; I therefore could not help ſuſpecting, that the worm had entered in at the duct in the *duodenum*, and crawled to the oppoſite ſide, through one of the branches of the hepatic duct.

Nevertheleſs,

Nevertheleſs, it is well known there are caſes upon record, where the matter being ſeated upon the ſurface of the liver, has made its way out through the muſcles of the abdomen *, in conſequence of an inflammatory adheſion, between the external membrane of this gland, and the peritoneum. But by avoiding inciſions deeper than the ſkin, or any rough treatment, that might ſeparate this adheſion, and make way for the matter to paſs into the cavity of the abdomen, and by keeping the ulcer ſufficiently open, giving the bark, and procuring a ſtool once or twice a day, the patients have recovered. On the contrary, when the abſceſs was deep ſeated, I think we may obſerve it has more frequently happened, that they ſunk under the diſcharge, or in conſequence of a colliquative fever, brought on by

* See Memoirs Roy. Acad. Surgery Paris, and Morgagni who points, to other writers upon the ſubject; beſides which, there are modern caſes publiſhed.

the

the abſorption of matter: though even in this caſe, the patient ſhould not be given up, becauſe by the uſe of antiſeptic lotions, and correſponding internal medicines, ſome have recovered under theſe deſperate circumſtances. But I have not long ſince ſeen a more favourable termination of this diſeaſe.

Empyemas and an abſceſs in the liver, cured by abſorption.

A boy about ten years of age, immediately after having a pleuriſy, and an hepatitis, had every ſymptom of an *empyema* in the left ſide of the thorax; a manifeſt fluctuation of a large quantity of ſome kind of matter, on the ſurface of the right ſide of the liver appeared, which ſeemed to make its way out through the ſkin: but abſorption taking place, the matter was gradually carried off by urine and ſtool, and the patient recovered a perfect ſtate of health. It is impoſſible a recovery could be more complete, or accompliſhed with more eaſe; and can

there

there be any doubt of the preference of this method, where it can be properly put into execution, to making an opening and admitting external air?

I can only add two inſtances to thoſe already written by others, of perſons being reſtored to health, by part of the *parenchyma* of the liver, mixed with black blood, &c. being diſcharged by ſtool, in conſequence of the inflammation poſſeſſing the concave part of this gland, and of an adheſion taking place betwixt it and the colon, or to the matter eſcaping by the biliary ducts *. I did not ſee either of theſe men, till the diſorder was far advanced, nor had they been attended by any of the faculty; but I was informed that one of them, was ſeized more than

Abſceſs in the liver carried off by ſtool.

* Thoſe who wiſh to underſtand this ſubject thoroughly, muſt have recourſe to the Memoirs juſt referred to; where they will find it well handled by Petit and Morand.

a year

a year before, with a pain in his right ſide, below the ribs *(hypochondrium)*, attended with a fever, which laſted more than a week, but then abated; and after ſome time a fulneſs was perceived (attended with a dull pain) that was then increaſed to a large ſize. I could not diſcover that the other had any previous pain or fever, but that a fulneſs of the affected part gradually came on, and ſeemed to endanger his life very much. Indeed they were both under alarming circumſtances, and had all the troubleſome ſymptoms which accompany obſtructions in the liver; but though they were reduced to ſkeletons, they ſoon recovered by the aſſiſtance of kitchen phyſic, after the fortunate event took place. I think their caſes prove, that they have reaſoned right, who ſuppoſe that theſe abſceſſes are ſometimes the conſequence of inflammation which has long ſubſided, and ſometimes of chronic

nic obſtruction, in which inflammation did not interfere: and upon theſe principles, if we are called early enough, our views muſt be directed to prevent a diſſolution of the liver.

We are told by writers who have diſſected thoſe who died of abſceſſes in the liver, that, by adheſion, the matter ſometimes makes its way through the diaphragm into the thorax, and produces an *empyema*, that will ſeldom admit of a remedy: nor do they ſpeak more favourably of the extravaſation of the matter from an abſceſs of the liver, into the cavity of the abdomen; and yet I could wiſh we were to reflect whether aſſiſtance may not ſometimes be given to this deſperate malady, where a colliquative fever does not interfere, and ſpeedily carry off the patient. Every practitioner of experience muſt know, that extravaſations in this cavity tend to its fore and lower part; and that when the matter makes its way out

Extravaſation of matter in the abdomen.

out the patient often recovers, even though the inteſtines are corroded through, and the fæces diſcharged for a time, at the external ulcer. May it not therefore be proper to make an opening in the moſt prominent part below the navel, in the manner Petit and Garengeot * recommend, to diſcharge the matter which has drained from the liver? Waiting in this inſtance for the forming of an abſceſs, would probably be the loſs of a patient; and I am apt to believe, we may ſometimes proceed with confidence, though no other ſymptoms of the matter being collected ſhew themſelves, than that we have mentioned; becauſe I have lately ſeen matter form an uninflamed circumſcribed tumor, or rather a prominency in the fore-part of the abdomen, from the navel to the *os pubis*, in which I could eaſily diſcover a fluid by its fluctuation.

* Mem. Royal Acad. Surgery Paris.

Nor

Nor ſhould I have heſitated a moment about making an inciſion to diſcharge it, had there been any proſpect of ſaving the patient. But he was ſo much reduced by a complaint in the lower viſcera, which brought on the ſuppuration, that I was apprehenſive an operation would have the appearance of killing him, who afterwards died of the diſeaſe; wherefore I left the whole to nature aſſiſted with opium, cordials, a light nouriſhing diet, and ſuitable applications. In a week or ten days time, a large quantity of matter was diſcharged at the navel, and he died. But with what ſucceſs matter may be diſcharged from the abdomen, the following caſes will prove.

A boy about ſix years old upon catching cold, when he had taken a doſe of calomel for the worms, was ſeized with a violent pain in his bowels, which was ſomewhat relieved by an opening mixture

given by his apothecary; but upon an inflammatory tumor appearing, betwixt the navel and the os pubis, I was deſired to ſee him. A pultice was applied, and continued till the abſceſs broke, when matter and fæces in large quantity were diſcharged together; notwithſtanding which he had ſometimes ſtools, during the gathering of the tumor. Nor did this kind of evacuation ceaſe for ſome time, though the patient had natural ſtools once a week, but by keeping the parts as clean as we could by antiſeptic lotions, &c. this very offenſive and diſagreeable ulcer, which would have admitted a duck's egg to have been dropped into the abdomen, without touching the ſides, was cured by nature in the ſpace of ſix or eight months; and when the boy was grown up, he went for a ſoldier, and ſerved in ſeveral campaigns. I have lately ſeen an abſceſs form a little above the groin, on the edge of

of the pyramidalis, from large red worms * making their way out of the inteſtines; and upon their removal, the patient got well with very little trouble.

The cyſt in a dropſy taken out of the abdomen and patient got well.

A woman, betwixt twenty and thirty years of age, had been tapped twice for an aſcites, and a large quantity of water taken away at each time; but after the laſt operation, the puncture did not heal, and in a little time, a ſubſtance they did not underſtand, protruding, I was deſired to ſee her. It was evidently a part of a cyſt, and, as it had already dilated the ſore, I perſuaded her to let it alone till the opening became larger, in hope of a better opportunity of affording relief. Accordingly in ten days or a fortnight, the protruſion was much larger, and by the help of a dry cloth, a cyſt that would contain five or ſix gallons of water, was gradually extracted. More than a quart of matter

* See Ed. Med. Eſſ. art. 19, p. 178, vol. i.

immediately followed, and more was daily diſcharged for ſome time, yet the woman recovered without farther trouble than keeping the parts clean, and afterwards bore ſeveral children.

Other abſceſſes.

When abſceſſes are formed in any other part of the abdomen, point outwardly, and ſhew ſigns of ſuppuration, I believe they are generally in conſequence of inflammatory adheſion with the peritoneum; and theſe happen indiſcriminately wherever the adheſion takes place. I have ſeen them on each ſide the *hypogaſtrium*, and known them to originate from plum-ſtones, which have been ſwallowed, and from other local cauſes; but the patient often recovers.

Nevertheleſs we ſometimes meet with abſceſſes in this cavity, which are not confined to any of theſe rules. A girl about five or ſix years old, was troubled with an enormous ſwelling of the abdomen,

men, attended with a bad ſtate of health, which being taken for a worm caſe, ſhe was treated accordingly; but medicines did not avail. Her whole dependence was therefore upon ſuch nouriſhing food, as her parents, who were poor, could provide, and ſhe went on for a whole year without expectation of recovery: but the diſeaſe at laſt terminated fortunately, by a diſcharge of a great quantity of matter *per annum*.

From hydatids.

An old woman, whoſe abdomen was much ſwelled, had a large inflammatory abſceſs at the *præcordia*, which broke; and upon dilating the orifice by inciſion, a conſiderable quantity of matter, together with ſome hydatids was diſcharged: they were followed by others of various ſizes at times, till more than a peck, beſides a large quantity of matter, were evacuated, whence the abdomen ſubſided, and the woman got well. I have ſeen

two inſtances where hydatids in great quantity came from the abdomen, in a ropy kind of matter through the muſcles of the back; which ſhews that though betwixt the navel and the pubis, may be the moſt convenient place for the exit of matter from this cavity, yet the patient will ſometimes recover, from whatever part it is diſcharged.

betwixt the abdominal muſcles.

Perhaps they are not equally dangerous, but I have often ſeen abſceſſes formed betwixt the abdominal muſcles, more troubleſome; they commonly point from under the *obliquus deſcendens*, at the edge of the tendinous line, which extends from the *os pubis* to the *ſternum*; and frequently leave winding ſinuſes, that are not very readily traced, behind them. Theſe are generally firſt diſcovered, by the largeneſs of the diſcharge at the ſubſequent dreſſings to the breaking of the tumor; but a director being introduced, we may divide

divide the muſcle ſafely, and if more ſinuſes afterwards ſhew themſelves, they muſt be dilated one by one, till we have gone through the whole buſineſs, and laid a foundation for a cure, which will then follow in the common manner.

Lumbar abſceſs.

But the moſt dangerous of all abſceſſes that belong to the abdomen, is the lumbar abſceſs, that forms in the cellular membrane about the pſoas muſcle, and points in the thigh, groin, back, or ſometimes at the anus. Of theſe patients few I believe recover, nor indeed is it to be expected; as the ſource of the diſeaſe can ſeldom be laid dry, and a caries of different parts of the back-bone is ſometimes added to the malady. Some however, I have ſeen ſurvive theſe collections of matter, by the tumor being ſuffered to break of itſelf, and its contents to drain gently off through a very ſmall aperture, which prevents the free ingreſs of air,

and violent ſymptoms: for when a large tumor of this ſort forms on the inſide of the thigh, and breaks in a large opening, in ſuch a manner that the air has ready paſſage, we frequently ſee a violent colliquative fever ſucceed, that cloſes the ſcene in a very ſhort time.

But though ſmall openings ſhould be obtained if poſſible, they too ſeldom ſecure the patient; for when the tumor is pierced with a ſmall trocar, yet, if a kind of curds and whey, or poor thin matter, is evacuated, inflammation, &c. follows; or if this does not terminate the patient's exiſtence, the opening degenerates into a fiſtula, and a true *maraſmus* is the conſequence of a large and tedious diſcharge. The greateſt hope of recovery is when the matter is mild and good, owing perhaps to its being a common purulent abſceſs; whereas when it is ſero-purulent, it ſeems to indicate a ſcrophulous origin.

To

To carry off ripe matter from theſe abſceſſes by abſorption, is much more deſirable, if it can be accompliſhed; but I am ſorry to ſay, my attempts in this way have not anſwered my wiſhes. I find purging cannot be borne, when the diſeaſe has made any conſiderable progreſs; and though I have not ſeen the tumor abated by vomits, yet inſtead of weakening, they frequently amend the health of the patient. It remains to be tried whether the methods ſpoke of in empyema can be ſerviceable; but if any device could be hit upon that would put the abſorbent ſyſtem in action, it might perhaps ſometimes elude the event, that in this inſtance too frequently happens.

On Abſceſſes and ſinuous Ulcers about the Anus.

Abſceſſes happening about the anus, have ſymptoms peculiar to themſelves, which

which muſt if poſſible be mitigated during the progreſs of ſuppuration. It is well known, that teneſmus and ſtrangury, by conſent of parts, are reciprocal; and that the irritation from a ſwelling about the rectum, and from a retention of the fæces, &c. do not only bring on theſe ſymptoms, but even ſometimes a ſuppreſſion of urine, and a train of other agonizing ſymptoms; which are happily alleviated, if not removed, by keeping the bowels open, by giving opium by emollient anodyne clyſters, and the warm bath. In other reſpects, they are to be treated like the ſame diſeaſe in other parts of the body, whether it be of the purulent, or gangrenous * kind, or accompanied with an eryſipelas †; nor does the ſubſequent ſinuous ulcer require any other treatment, than being laid open by a ſim-

Symptoms attending them.

How to be relieved.

* See Treat. on Gangrenes.

† See Eryſip. accompanied with ſuppuration.

ple

ple inciſion, and dreſſed with light eaſy dreſſings. The treatment of this diſorder, however has been thought to make a very difficult, and important branch of ſurgery; many books have been written upon the ſubject, and a variety of contrivances recommended, which have only tended to embarraſs nature, and render a cure difficult, which might have been accompliſhed with eaſe to the patient. The pernicious influence of falſe theory, is perhaps no where more evident than in the preſent inſtance; one miſtake leading to another more enormous, till the poor patient is doomed to a ſcene of torture, by burning, ſcalding, and unneceſſary cutting, to receive commonly a bungling cure; and a brief recital of theſe proceedings, may be a good caution againſt forming principles without comparing them with nature: for in examining many opinions, which are thought to be conſiſtent with

with reaſon, we find that neither nature or reaſon have been conſulted about the matter.

History of the diſeaſe and its cure.

Hippocrates informs us *, that *fiſtulæ* about the anus, are occaſioned by bruiſes, tubercles, rowing, riding on horſeback, &c. bringing on abſceſſes, that extend to the rectum; and there breaking, degenerate into this complaint, in which a ſanies lodges, and there is a diſcharge of excrement, wind, and much offenſive matter. But when tubercles (κονδυλωματα) ariſe, he adviſes the cutting them † while in a crude ſtate, to prevent ſuppuration, and this kind of termination. He treated this diſeaſe ſometimes by a palliative, and ſometimes by a radical method of cure, in both of which he employed the *ærugo æris*, &c. it being a received opinion in his time, that detergents of the eſchora-

* Lib. de fiſtulis.

† See the manner in Celſus lib. 7. cap. xxx.

tic

tic kind were neceſſary to bring the diſeaſed parts into a healing ſtate. When he purſued the palliative method, after giving the root of heart-wort * in honey and water, in a morning faſting, he introduced a tent of lint moiſtened with the juice of milk-thiſtle, and ſprinkled with the flowers of verdigriſe, into the ſinus, for the ſpace of ſeven days; and then alum, myrrh, &c. were uſed for drying it within, and cloſing the orifice without.

When a radical cure was attempted, a tin probe with an eye in the point, and armed with crude flax bound round with horſe-hair, to prevent its rotting, was introduced into the ſinus, and the fore-finger of the left hand into the anus at the ſame time. This meeting the probe

* He ſays this root will purge away the aſcarides, or that if any remain they die.

bent

bent it, and brought it, together with the upper part of the thread, out at the anus; upon which the probe was withdrawn, and a compreſſure made, by twiſting both ends of the thread together, the patient being then ſent about his buſineſs. Afterwards the ligature was twiſted daily as it became looſe, flowers of verdigriſe, &c. were applied, and if theſe did not ſufficiently accompliſh the ſeparation, the parts incloſed in the ligature were divided by inciſion. In deep ſeated *fiſtulæ* he made uſe of a collyrium; but in this inſtance, he had no hope but from the knife. Nor did he neglect to treat of the inteſtine being inflamed, of the conſequent pain and fever, teneſmus, and ſtrangury, uſual to this complaint, and of the method of curing theſe ſymptoms.

In another place *, Hippocrates ſpeaks of deſtroying calloſity by medicaments

* De locis in homine.

that

that bring on putrefaction; and Celſus, in his ſection on *fiſtulæ* in general, recommends cauſtics for the ſame purpoſe; but it may be remarked, that neither of them ſay a word of calli or calloſity in the preſent inſtance, nor of deſtroying them by theſe kind of remedies. Celſus † copied Hippocrates in the uſe of the ligature, but not exactly for the ſame purpoſe. Hippocrates incloſed in it a part of the rectum, whereas Celſus ſeems only to have employed it, to open *fiſtulæ* in the nates below the anus; for he ſays, a probe being put into them, an inciſion muſt be made in the ſkin at its farther end, and the thread, &c. drawn through and tied daily, which cuts the ſkin above the fiſtula, and at the ſame time, the part that has been divided heals; which method he ſays is long in curing, but without pain. On the contrary, when the

The difference betwixt the practice of Hippocrates and Celſus.

† Lib. vii. cap. 4.

fiſtula

fiſtula points inwards, or conſiſts of ſeveral ſinuſes, a knife may be neceſſary. Wherefore, in theſe kinds, the probe muſt be introduced and a ſmall piece cut out, to prevent a ſpeedy re-union of the lips of the wound, and that lint may be lightly applied. If from one orifice there ſhould be ſeveral ſinuſes, that which runs ſtraight muſt be opened with a knife, and the others which branch from it with the ligature. If any one penetrate ſo deep, that an inſtrument cannot be ſafely uſed, a collyrium ſhould be put in, under which circumſtances we imagine he gave up the caſe, and meant only to keep the ſinus clean; becauſe Hippocrates who introduced this practice, knew very well that it would not cure the patient.

Galen. By Galen's time, a ſyringotomy had been introduced * for the cure of *fiſtulæ*; but though he treats of ſinuous ulcers,

* Meth. Med. lib. vi. cap. 4.

and

and fiſtulæ in general ‡, I do not find that he takes any particular notice of the fiſtula in queſtion. *Fiſtulæ in perineo*, from tubercles ‖ in the urethra, were known to him, and Paulus §, by taking theſe and other fiſtulæ into the ſame chapter with the *fiſtula in ano*, confuſed the ſubject, and ſowed the ſeeds (as we ſhall have occaſion to ſhew) of perplexity that we have not yet got quite removed. Paulus.

This compiler diſtinguiſhes thoſe fiſtulæ which diſcharge their matter by the anus, and though he does not apply them in practice, he marks the diſtinction of thoſe which perforate the inteſtine, and thoſe which do not; and they have ſince been copied by much the greater part of writers on the ſubject. He ſpeaks of the winding fiſtulæ, and ſays in *almoſt all*

‡ De Art. Cur. ad Glan. lib. ii. chap. 8.
‖ In Aphor. Hip. com. iv. 82.
§ Lib. vi. cap 78.

of them a callus ariſes in the orifice. He reckons thoſe incurable which perforate the neck of the bladder, the articulation of the thigh, or which extend towards the great gut. He ſays, thoſe heal with difficulty in which an orifice is wanting, alſo thoſe which are concealed and terminate in the bone, with many clefts; but the reſt in general are readily cured.

His method of operating

For this purpoſe he makes three diſtinctions in the treatment of this diſeaſe. When the whole of the fiſtula was within ſight *, it was opened by an inciſion in a ſtrait line. When higher up he adviſes to introduce with one hand a knife into the ſinus, and the index-finger of the other into the anus. If the gut was not already perforated, the ſharp end of an inſtrument made for the purpoſe, was forced through it, and bringing down

* This is the fiſtula below the anus which Celſus cured with the ligature.

the

the point in contact with the finger, the whole was laid open by a ſimple inciſion. But when a callus interfered, it was removed by exciſion, always avoiding injury to the ſphincter; for he ſays, when this is wounded by raſhneſs, an involuntary diſcharge of the fæces happens. He looked upon thoſe to be timid ſurgeons, who followed Hippocrates's method of curing by the ligature; and he thinks the *ſpeculum ani* on this occaſion of no uſe: which practice I imagine was general among the Greeks, becauſe it was afterwards purſued both by Leonidas and Aetius *, though ſome followed the method of cure by eſcharotics, owing, as Aetius apprehends, to their being fearful of performing operations. Ætius.

Albucaſis

Nevertheleſs, Albucaſis extended this unneceſſary and painful practice, by preferring the actual cautery, which he in-

* See Aetius tetra. lib. 4th ſermo. 2 cap. xi.

troduced into fiſtulæ that did not penetrate the inteſtine repeatedly, till all the deceaſed parts were burnt; and then finiſhed the cure, with ointments proper for ſeparating the dead parts, and healing the ſore; and if this method failed of ſucceſs, he deemed them incurable *. Fiſtulæ which penetrated the inteſtine, were alſo thought to be incurable, but he cured thoſe which were ſuperficial, by an inciſion made with a curved knife, and thoſe under the ſame predicament at the verge of the anus, with a ligature.

Avicenna. However, his countryman Avicenna, though in this chapter *De curatione fiſtularum, &c.* he ſpeaks of the neceſſity of uſing the knife, or actual cautery in old fiſtulæ of other parts, yet he had not recourſe to either of them in this com-

* Perhaps this practice might originate in the famous Aphoriſm of Hippocrates, Quocunque non ſanant medicamentas ea ferrum ſanat: quæ ferrum non ſanat ea ignis ſanat: quæ ignis non ſanat ea incurabila putare oportet. Sect. 8. Aphor. 6.

plaint,

plaint: for when the *fiſtula in ano* did not penetrate the inteſtine, he attempted the cure by medicaments; and when there was an aperture in the gut, by the ligature; from all which premiſes the practice in the cure of this diſeaſe has moſtly ſince been deduced.

It is ſaid, "Guido Gauliaco, introduced ſurgery into Europe from the "Arabians;" ſome of whoſe doctrines and practice, indeed, he copied and explained in a very brief compaſs, and by juſt pointing out the parts he ſelected, we ſhall hereafter more readily detect the errors that have crept into practice. Guido.

He copied the doctrine *fiſtula eſt ulcus profundum, & ſinuoſum, cum colloſa duritie a parte interiori, a quo procedit ut plurimum ſanies virulenta manans**. And in his chapter *De fiſtulis que fiunt in*

* De Fiſtula cap. v.

ano † he hands down to us the confuſed account of fiſtulæ belonging to this part, and thus added to that perplexity, which will hereafter be very evident. He ſays, ſome fiſtula which are formed in the anus penetrate the inteſtine, others not, but ſpread to other parts; ſome of thoſe which penetrate to the inteſtine, go three fingers deep towards the middle of the *ſphincter ani*, and ſome tend outward towards the margin of the anus. Of thoſe which do not penetrate the inteſtine, but tend to other places, ſome go to the fleſh of the hip, and exterior margin of the anus, others towards the hip-bone, and *os coxygis*, and ſome towards the bladder and root of the penis, which differences make a diverſity in the method of cure.

The cauſe of theſe maladies, and the method of diſtinguiſhing one from the other, are then attended to; the incura-

† Chirur. tract. 4. doct. 2. cap. vii.

ble

ble fiſtulæ are enumerated from Albucaſis, and he ſays it is impoſſible to come at the root of thoſe, which are intricate and deep ſeated; and that all agree, a fiſtula penetrating above the middle of the ſphincter, cannot be cured without leaving a worſe diſeaſe, an involuntary diſcharge of the fæces behind; and it is therefore better to palliate only in ſuch caſes. But a fiſtula which does not penetrate farther than the fleſh near the anus, *(nates)* or hip, or thoſe at ſome diſtance from the anus, which do not penetrate far, may be cured without danger, according to Rhaſis. For which purpoſe after attending to the habit of the patient he directs when a fiſtula does not penetrate, but goes into the fleſh, to dilate the orifice by a piece of gentian or a knife, and then to cauterize the part with an actual or potential cautery; but Brunus and Theodoſius give preference to the former, and he approves

their choice. When the fiſtula penetrates, he adopts the method of cure by the ligature *, in the manner of Hippocrates from Abucaſis, or by pulling down the ligature as low as poſſible, and then dividing the parts it incloſed with a curved knife. His preceptor he ſays, paſſed a curved director into the ſinus, and cutting upon it with a red hot knife, laid the internal and external orifice into one; finiſhing the cure with fomentations, digeſtives, &c. Nor does he think after the inciſion is made, the practice of applying eſcharotics neceſſary. And thus the practice of cauteriſing in this diſeaſe, in preference to the rather milder methods of the Greeks, deſcended among us.

Vigo. One hundred and ſixty years after Guido, Johannes de Vigo diſapproved of the cure, both by the ligature and the

* See Abucaſis, backward.

cautery;

cautery; becauſe they could neither of them be applied without great pain, or endangering an abſceſs: and though he never uſed the knife in fiſtulæ which did not penetrate, unleſs detergents *, &c. were found inſufficient, yet in thoſe in which there was an opening in the gut, he followed the practice of Paulus, of laying them open by a ſimple inciſion. He ſays, "when a fiſtula perforates" *(below the ſphincter)* the foremoſt finger of the right or left hand, as is moſt convenient, being anointed with oil of roſes, muſt be introduced into the anus, and then a crooked ſharp inſtrument, through the fiſtula till the point is felt under the finger. An inciſion from one opening to the other is then to be made, bringing the point of the inſtrument directly through the anus, that the hæmorrhoidal veins may not be divided. The

His method of cure.

* See Avicenna, loc. cit.

wound

wound was dreſſed for two or three days, with a digeſtive compoſed of turpentine, the yolk of an egg, and a little ſaffron; or, when a calloſity remained, he removed it with Ægyptiacum, or a powder of mercury; finiſhing the cure with milder applications, uſual to the cure of ulcers immediately following wounds.

Parey

Parey * however, who lived a few years after Vigo, (and whoſe humanity was evident) except in ſuperficial fiſtulæ, preferred the ligature to the knife, becauſe it did not occaſion any hæmorrhage. If there was not already an aperture in the gut, he made one in the manner of Paulus, with a ſharp pointed needle contrived for the purpoſe; and to the beſt of my recollection, he is the firſt writer, ſince the days of Paulus, who omits to caution againſt dividing the ſphincter. Perhaps he knew

* Lib. xiii, cap. 21, 22, 23. muſt be read to underſtand him.

it,

it to be of no conſequence, otherwiſe I think he would have mentioned it; becauſe in general, he copies cloſely the common doctrines that had been maintained.

On the contrary Fabricius * who was a contemporary with Parey, recommends a diviſion of the parts by ſyringotomy, becauſe it is an operation performed with great expedition, and is much leſs painful than the others. He had his doubts however, about the ſafety of penetrating the inteſtine with an inſtrument. To perforate it, ſays he, has been a long time againſt my inclination, and I have accordingly abſtained from it. But when I found by repeated experience, that none, or but very few of this ſort of fiſtulæ ſubmitted to a cure; and reflecting on the extreme difficulty, with which the cure was effected, the fiſtula never tending to Fabricius.

* Lib. iii. cap. 12. and Chirur. Oper. cap. 93.

increaſe

increaſe nor cicatrize; I at length changed my reſolution, and when I found the probe to be *pretty near the anus*, I perforated the inteſtine, the cure ſucceeding afterwards very well! Yet he thought there was danger in this procedure, becauſe a coſtive prieſt died after having wounded the rectum, by thruſting up a ſharp pointed ſtick, to remove hardened excrement, and thus contrary to his own experience, threw a ſtumbling block in the way of improvement.

Marchettis.

Marchettis, who purſued the ſame method of practice with Fabricius, endeavoured however to remove this impediment; for he ſays fiſtulæ which creep upwards in a line with the rectum, although they do not perforate it, *yet they can never be healed unleſs the inteſtine be divided*: and to avoid the inconvenience ſaid to be brought on by cutting the ſphincter, he informs us that he left part of this muſcle as broad

as

as a ring untouched, with happy effect. The hint however he gave of the uſeleſsneſs of eſcharotics, had it been attended to, would have been of much more conſequence in treating this malady; for he ſays, I have ſometimes obſerved a callus to be taken off, with only digeſtives, which though it may ſeem ſtrange and even impoſſible to ſome, I have frequently experienced; particularly in a woman who was affected with an old fiſtula, which made its way into both nates, and through the *foramina* of the *os coxendix*, filled up with the *muſculi obturatores*, which were hardened with a callus, to the thickneſs of the middle finger, which I cured by dividing as far as the bones; and afterwards applying a digeſtive the callus became ſofter, and eaſily caſt off like the bark of a tree. In the ſpace of five months the woman was perfectly cured, and remained well in health many

years

years afterwards. Here nature was held out againſt art; but as no pains were taken to ſhew the ſame event muſt in general happen, it was I apprehend looked upon to be accidental, and not conſidered as a precedent.

Vauguion.

Vauguion * indeed who in the beginning of this century followed the method of cure by a ſimple inciſion, as practiſed by Paulus and Vigo, applied digeſtives twice a day, to remove calloſities; cauſtics in his opinion being only required, when induration would not give way to theſe remedies; except, when the bottom of the fiſtula was very remote from the anus, he then opened it by their aſſiſtance. Otherwiſe when the fiſtula opened outwardly, he enlarged the orifice to introduce the inciſion knife, with its probe. This knife was crooked and ſlender, and

Operates in the ſame manner as Paulus and Vigo.

* Chirurg. Oper.

made

the probe long, pointed * at the end, and made of well tempered metal, to prevent its breaking in the operation. Its edge being covered with a fine thin ſilver chape, or ſheath, to keep it from hurting the patient when thruſt in, which was taken off when the knife was in the ſinus, before the inciſion was made. But his operation was nothing more than what we have already deſcribed. He put the fore-finger of his left hand up the anus, and introduced the knife into the external orifice of the fiſtula, and feeling the point of the probe upon his finger, perforated the gut with it, and then drawing one end of the probe with his finger, and the other with his hand, cut through the whole at † once. But his inciſion did not extend far up the rectum, becauſe he cautions againſt wholly dividing the ſphincter muſcle. He af-

* This was afterwards called the French inſtrument, and deſcribed with a blunt point. All the knives uſed on this occaſion are to be ſeen in Heiſter.

† Ob. 49 and 51.

terwards

terwards applied digeſtives and the uſual remedies to finiſh the curer

Saviard. Saviard (and no doubt other French ſurgeons) purſued the ſame method of practice, without regarding the ſphincter; but the time was not yet come for the introduction of this ſimple proceſs: practitioners were ſtill perſuaded of the neceſſity of deſtroying calloſities (as they call them) by force, and the hint of Marchettis and the practice of Vigo, and Vauguoin were unnoticed. Turner whoſe ſurgery was in this inſtance at leaſt very coarſe and barbarous, deſtroyed calloſities by eſcharotics, before he opened the ſinus with his probe ſciſſars, which he preferred in this buſineſs. Le Dran, nearly about the ſame time, opened ſinuſes formed betwixt the coats of the rectum in conſequence of piles, their whole length by inciſion, and cured the wound by ſimple dreſſings; bnt in other caſes his mind being

Turner.

being ſtrongly poſſeſſed with the idea of calloſities, and ſeeing the method of cure by the cauſtic tedious, uncertain, and unſafe, he revived indiſcriminately the worſt part of the practice of Celſus and Paulus; by laying it down as a rule, that whenever the inteſtine was penetrated, the abſceſs muſt not only be opened its whole length, but that part of the inteſtine, together with the calloſities, muſt be cut away, and the bleeding occaſioned by the operation ſuppreſſed, by a ſtrong ſtyptic water, which in a few minutes would form an eſchar.

Cheſelden purſued the ſame method, upon what he thought an improved plan, even in caſes where apparently Mr. Le Dran would only have made a ſimple inciſion, and applied ſimple dreſſings. It is well known, he introduced one of the blades of the polypus forceps into the fiſtula, firſt dilated with ſponge tent, and the other into the anus, and then firmly Cheſelden.

holding ſo much as he thought proper, he cut it out with a pair of ſciſſars. When he could not cure by this method, he left the internal diſcharge into the gut, as a uſeful iſſue, to continue the benefit nature deſigned by this diſeaſe*. He judiciouſly cautions againſt performing this operation, when the patient is troubled with the piles, becauſe he had known one in that caſe bleed to death. I have met with ſome who had formerly undergone this diſcipline, and were obliged to keep their bowels open conſtantly, as the ſtricture about the anus, prevented their having a ſtool without the utmoſt difficulty.

Indeed ſo great became the madneſs of cutting away portions of the buttock to accompliſh a radical cure in this malady, that we even read of ſome who unfeeling-

* Q. Would not this doctrine be equally forcible againſt performing any operation at all?

ly

ly took off by inciſion the lower part of the rectum; and I very well remember more that thirty years ago, a gentleman under the hands of a ſurgeon of the firſt eminence, for the cure of a ſinuous ulcer which paſſed ſome way on the ſide of the rectum, who cut out a large piece of ſkin and fleſh adjoining to the anus, and ſuppreſſed the hæmorrhage he brought on, by cramming the wound full of lint dipped in ſcalding oil of turpentine! And though Mr. Sharpe very well knew, that a ſimple inciſion in ſinuſes, into and about the gut, would ſometimes ſuffice, yet he thought it generally ſafer to cut the piece of fleſh ſurrounded with theſe inciſions quite away, and when callous abſolutely neceſſary, or that the calloſities muſt be waſted afterwards by eſcharotic medicines; which he ſays is a tedious, and cruel method of cure. This practice being compared with Paulus, evinces, that he Sharpe.

only cut away calloſities, whereas Mr. Sharpe cut the parts away, whether they were callous or not.

Cutting through the ſphincter, not regarded.

By this time the apprehenſions of inconvenience, from cutting through the *ſphincter ani*, were entirely done away by Dunn, Berbeck, Heiſter, Sharpe, and others. Surgeons became bolder in extending their inciſions upwards, and running from one extreme to another, they ſometimes cut as high as they could reach with their finger, with a ſtrong, long, pair of probe ſciſſars made for the purpoſe; and indeed I believe they made bloody work of it, till within the laſt twenty or thirty years, when a milder method of practice gradually took place.

But ſurgeons run into another extreme.

In this period, Mr. Pott reviewed the ſubject, and after ſhewing the difference betwixt induration and calloſity, and the miſchief that had ariſen from conſidering every ſinuous ulcer about the anus as a fiſtula,

fiſtula, he recommended the moſt eligible part of the ancient practice, of curing by a ſimple inciſion, with ſome improvement in the point of the probe knife, uſed by Dionis, on another occaſion: and adopting the modern mode of dreſſing, even where the inſide of the ſinus is hard, and does not afford good matter, he diſapproves of eſcharotics, and only adviſes lightly ſcratching or ſcarifying, with the point of a lancet or knife, though he allows a little of the lips of the wound to be cut away, where there are a multiplicity of external orifices, or where the lips or edges of the wound are in a looſe, flabby, hardened, inverted ſtate, near to the fundament.

Whether this practice is adopted in France I know not, but Mr. Foubert and Mr. Majault*, think the ancient method of operating by ligature, much more ſimple, eaſy, and expeditious, than that in

Foubert and Majault.

* Med. Com. vol. iii. p. 61.

uſe; and if they refer to the practice of Le Fay, Garengeot, or Le Dran, they certainly ſay true. But we apprehend it is almoſt impoſſible to conſtringe the end of the rectum, without occaſioning teneſmus, &c. and it is certain the cure by ligature, will take up much longer time than that Mr. Pott recommends. What Celſus ſays of its being attended with no pain, was probably owing to the rectum not being included in the thread. Whereas Avicenna, and many other writers who paſſed it through the gut, ſpeak of its occaſioning violent pain, ſpaſms, and other bad ſymptoms; and of the neceſſity of looſening it and abating them by emollient applications, occaſionally before the buſineſs could be purſued. This might be owing to the ligature being made very tight, and may be in ſome meaſure avoided by a more gentle compreſſion. Wiſeman who ſeems to have been a timid ope-

Wiſeman.

rator,

rator, chiefly employed it in the cure of this complaint with ſucceſs, notwithſtanding he often embarraſſed his proceedings, with the uſe of cauſtics to deſtroy callus, &c. and in thoſe people who dread an operation by the knife, and who would rather ſuffer the diſeaſe to take its own courſe, than to undergo cutting; may not the ligature be employed, as the parts divided either way are exactly the ſame?

I know no other writer who has thrown any light upon the ſubject, unleſs Mr. Bell's definition of this diſeaſe ſhould be thought an improvement: for, contrary to the general opinion of a fiſtula being a deep narrow callous ulcer *, or ſinus †, he aſſerts that every ſinuous ulcer in the neighbourhood of the rectum, is termed a *fiſtula in ano*; and that this is the moſt ſimple idea that can be given of the diſeaſe: Bell.

* Celſus, lib. v. cap. 28.

† Paulus, lib. iv. cap. 49.

and it is hard to ſay whether from the days of Celſus, writers have not often treated of ſinuous ulcers about the anus under the name of fiſtulæ. Aſtruc very plauſibly and ingeniouſly endeavours to rectify this matter. He informs us "that "all fiſtulæ are ranged under the head of "callous and ſinuous ulcers. Two things "therefore eſſentially belong to a fiſtula, "a ſinus without a callus is only a ſinu- "ous ulcer. A callus without a ſinus "only conſtitutes a ſimple callous "ulcer, but neither of them ſingly a "fiſtula. But as neither of them ſepa- "rately ever conſtitutes a fiſtula, ſo both "of them when joined, always and eſſen- "tially form this diſeaſe." Our country- man Wiſeman ſays, "ſinuous ulcer in "time grow callous, and are then deſerv- "edly called fiſtulæ. Heiſter * a col- "lector of opinions, ſays, thoſe ulcers in

* Surgery.

or

" or near the anus and rectum, which are " recent, and afford a laudable pus, or " uniform matter, are termed *abſceſſes* * ; " but thoſe which are more inveterate " callous and afford a thin fœted mat- " ter, have been generally denominated " fiſtulæ by the ancients:" and in this opinion ſubſequent authors have agreed.

On the contrary, Hippocrates † did not define a fiſtula, we muſt therefore have recourſe to the word Συριγξ, *fiſtulæ*, and it ſeems from this deſcription, that he meant by the word degenerating, that the abſceſs in time contracts into a narrow pipe from whence a ſanies is diſcharged: and truly, a tubercle forms a fiſtula from the very beginning, a narrow pipe being the immediate conſequence of

* I have only by me the Engliſh tranſlations, and apprehend it does no correſpond with the original in this inſtance, ulcers and abſceſſes being different things.

† De Fiſtulis.

a ſtag-

a ſtagnating ſharp ichor. He ſays not a word of *calli*, nor of the remedies to deſtroy them, and ſeems to have uſed detergents only for the purpoſe of bringing the ulcer into a healing ſtate. Galen uſes the words ſinus and fiſtula ſynonimouſly *, and notwithſtanding the word callus was taken into their definition, becauſe it was ſometimes met with in this diſeaſe; yet it is plain, neither Celſus nor Paulus conſidered it as eſſentially neceſſary to the forming of a fiſtula. Celſus ſays † the cure of a ſimple recent fiſtula in the fleſh is eaſy; but when by time it becomes callous, there is a neceſſity for ſtronger medicines, or cauſtics to conſume it. In his ſection *de ani fiſtulis*, calloſity ſeems not to make any part of the complaint. Paulu alſo ‡, ſpeaks of fiſtulæ both with and

* De Art. curand. ad Glan. cap. viii.

† Loc. cit. See Hip. lib. de Coac. pron. No. 3.

‡ Loc. cit.

without

without calloſity; and Heiſter confeſſes that a fiſtula has ſometimes no great calloſity, only the margin of its entrance a little indurated: and upon the whole, a fiſtula ſtrictly ſpeaking, ſeems to be a contracted narrow pipe, diſcharging a ſanies, ſometimes with, and ſometimes without calloſity; and differs from a ſinuous ulcer, in its ſides being more contracted, and when it has continued ſome time, in their being more or leſs hard.

Fiſtulæ properly belonging to the anus.

After all there are only two kinds of ſinuous ulcers, or fiſtulæ, which properly belong to the rectum, and anus; the one is that betwixt the coats of the gut, as delineated by Cheſelden, and the other, that which is ſaid to creep up the outſide, of this lower extremity of the inteſtinal canal. In both caſes the gut itſelf is diſeaſed, but the abſceſs which ariſes in, and forms upon the buttock, though it is near to, and extends up to the verge of the

the anus, yet if it goes no higher, it has nothing to do with the rectum, nor is there any particular operation neceſſary in the cure.

First ſort. The firſt may ariſe from a common inflammation, or from piles being inflamed. If from a common inflammation, the ſubſequent abſceſs breaks either on the inſide, or outſide of the gut, or perhaps both. In the firſt inſtance, the matter is diſcharged *per anum*, or ſometimes at the verge of the anus: in the other, by the ſide of the fundament. But when it ariſes from inflamed piles, tubercles, *(condylomata)*, &c. if an abſceſs accompanies, it is commonly a ſmall one, and the diſeaſe is moſtly diſcovered by a diſcharge of thin ichor, from a very ſmall orifice in a little excreſcence, at the place where the piles uſually appear.

Second kind. The ſecond ſort I imagine, always ariſes from an inflammation, or ſome diſeaſe in

in the ſide of the gut, that produces an ichor, and occaſions ſuppuration in the adjoining adipoſe membrane, which lays the inteſtine bare, and forms an abſceſs by deſcent of matter, a little below the anus. It is owing to the affection being thus circumſtanced, that ſurgeons have found it impoſſible to heal theſe ſinuſes without dividing the diſeaſed parts, and reſtoring them by bringing on digeſtion.

How diſtinguiſhed.

Nevertheleſs the probe more certainly diſcovers the nature of this complaint, than the ſymptoms deſcribed; for when the ſinus runs between the coats of the gut, the end of a ſtrait probe is diſtinctly felt, by a finger in the anus, immediately under the internal coat of the rectum, all the way it paſſes. Whereas when the matter comes down by the ſide of the gut, a curved probe is moſtly required. Nor do we feel the end of it ſo plain, till it gets

gets ſome way up. But this is a matter of no great conſequence, as the treatment is the ſame in both caſes; though in one inſtance we only make an inciſion through the inner coat of the inteſtine, but in the other both coats are cut through. Nor have I ever found in theſe inſtances, any other operation than a ſingle inciſion neceſſary to bring about a cure.

Different opinions conſidered.

We are told however, that we are often to meet with winding, coneyborough ſinuſes, and that much cutting may be neceſſary on this account; but it muſt be remembered, that this doctrine is borrowed from the ancients, who confounded the abſceſs in the buttock, *in perinæo*, the lumbar abſceſs, and that connected with the rectum, together; and whoſe obſervations we have ſeen, were made on the parts below the anus. It was only the lower part of the rectum that they ever

ever divided, for fear of wounding the ſphincter, and it is therefore no way applicable in the preſent inſtance.

In what inſtances one ſinus only happens.

Indeed a moment's reflection will I think evince, that there can very ſeldom be more than one ſinus: when the matter forms betwixt the coats of the inteſtine, or when it ariſes from a diſeaſe in the outſide of the gut, I believe the matter always comes down cloſe by it, at leaſt in the preſent caſe. I have never met with more than one ſinus above the verge of the anus, or a cavity that a ſingle inciſion in a good habit of body did not lay dry. Being unprovided with a proper inſtrument, I once paſſed a bent probe, and penetrating the inteſtine at the end of the ſinus, bent it more, and bringing down the lower part of the inteſtine, divided it with a pair of probe ſciſſars; but though the patient was very well cured, it was an aukward operation, and

I think

I think not to be imitated. I many years uſed the common ſyringotomy *probe razor*, with eaſe and ſucceſs, but I find the ſyringotomy probe knife Mr. Pott adopted more handy, it being readily paſſed along the ſinus, till the blunt point meets the finger introduced into the anus; where, if there is not already an opening, it is forced through the ſide of the gut with the utmoſt facility, and being brought down with the end of the finger, does the buſineſs in an inſtant: and it muſt be well known to thoſe converſant with this operation, that no hæmorrhage follows afterwards. I prefer the application of a mild digeſtive balſam to dry lint, becauſe it lies eaſier in the wound, does not occaſion any inflammation, and there is no inconvenience from its being removed, whenever the patient may have a ſtool.

If we open the abſceſs, the whole may be

be gone through at the ſame time; though if we firſt ſuffer the inflammation to ſubſide, in conſequence of the matter being diſcharged, the opening of the gut will be done with more eaſe to the patient: but, perhaps the thoughts of a ſecond operation, may more than overbalance this act of lenity. It is not neceſſary to plague the patient with a ſpunge tent to dilate the orifice, when the abſceſs has broke of its own accord; the opening is always ſufficient to admit a probe, and the direction of the ſinus being known, the probe pointed knife readily finds admittance through the ſame paſſage, and completes the buſineſs.

Mr. Pott adviſes the inciſion to be carried from the verge of the anus, up as high as the top of the hollow, in which the matter was formed; and under proper reſtrictions, this advice ſeems to be right, otherwiſe it may lead to the pre-

poſterous practice of cutting as far as we can reach. If I may judge from what I have ſeen, dividing the ſphincter when neceſſary, is all that is required; for the matter has free room to drain away, the digeſtion of the wound removes the diſeaſe in the gut, the parts collapſe, if not hindered by cramming in dreſſings; and the union which follows from new granulations of fleſh, ſhews the difference betwixt theory and practice, by reſtoring the ſphincter to its proper office.

It is imagined by ſeveral, that when abſceſſes break on the inſide of the rectum, there are always ſome marks on the outſide, either thinneſs, or diſcolouration of the ſkin, or an induration under it, which direct where a puncture ſhould be made with a lancet; and then it becomes the ſame caſe, as if the matter had pointed outwardly, and this I believe is moſtly true: but it is ſometimes otherwiſe, for an

an abſceſs being formed betwixt the coats of the inteſtine, ſometimes breaks inwardly, and the matter is diſcharged by the anus, without the parts on the outſide of the gut being any way affected. This happened to a patient of mine ſome years ſince. There was not the leaſt ſort of direction on the outſide, where to have made a puncture, though knowing by the touch within the rectum, on which ſide the abſceſs was formed, I ſhould have been under no difficulty in this reſpect, had not nature rendered any operation unneceſſary. For by keeping the bowels open, injecting emollient clyſters occaſionally, giving elicampane root, and putting light doſſels of lint moiſtened well once or twice a day, with a mild digeſtive, according as he had a ſtool, the diſcharge gradually leſſened, and the man got well in time.

When the matter indeed is formed in

the buttock, and reaches up to the anus, or when it drops down into the buttock in conſiderable quantity from above; various ſinuſes are not uncommon. It was theſe Celſus ſpoke of, and he has been copied from one to another by ſubſequent writers, without making a proper diſtinction. I have known them paſs under the glutæ muſcles, &c. but his directions are fully ſufficient in this buſineſs; for if from one orifice there ſhall be ſeveral ſinuſes, that which runs ſtrait muſt firſt be opened, and afterwards thoſe which branch from it, muſt undergo the ſame treatment; though it is beſt to wait till the ſwelling has ſubſided, and only dilate them if a diſcharge of matter, &c. makes it neceſſary. But if a convenient, and ſufficiently large opening is made in the firſt inſtance, this will not very often be required. Some adviſe breaking bridles formed by the cellular membrane, after

after the opening is made, which may be readily enough done by the end of the finger: but if this is omitted, the digeſtion of the ulcer will ſoon make the cavity clear, and give room for nature to reſtore the loſt parts.

Large abſceſſes about the rectum.

Large critical abſceſſes ſometimes happen in the lower part of the pelvis, and form almoſt, or wholly round the rectum. It is theſe in which the end of the gut has by ſome been injudiciouſly extirpated, and others have adviſed to divide the ſides of it in the uſual manner, to accompliſh a cure. But neither of theſe ſteps are neceſſary, for the abſceſs taking its riſe in the cellular membrane, the gut, though it may ſometimes be laid bare, is not diſeaſed; and an opening adequate to the ſize of the tumor, is moſtly ſufficient in this depending part of the body. At leaſt it has happened ſo in every inſtance, I have met with; and I ſee no reaſon to

How cured.

expect any other event, when the healing of the ſore is not prevented by a foulneſs in the lower part of the inteſtine; becauſe muſcular fibres in a ſound ſtate, though denudated, never retard the cure.

I have never yet been under any neceſſity of deſtroying calloſities by the knife, or any ſort of eſcharotics; and truly in this inſtance we have ſeldom any thing more than the fiſtula I have deſcribed, or, a common ſinuous ulcer to deal with. People, I believe always apply for aſſiſtance while in this ſtate, at leaſt it has never happened otherwiſe in my practice, and had *calli* been common in fiſtulæ about the anus, Hippocrates and Celſus would not have been ſilent about them. I verily believe after Galen's time, the doctrine belonging to fiſtulæ in general, were taken into this account; and writers have ſince copied each other, to ſhew they preferred book-learning, to that they might have

Calloſities ſeldom exiſt.

From whence the miſtakes about them aroſe, and their conſequences.

have learned from nature; and what is worſe, I am convinced the deſtruction of calloſities has been aimed at by knife or cauſtic, when they did not exiſt.

Calli in what manner they may be cured.

But ſuppoſing the diſeaſe to have been neglected, and a callus formed; cutting through it and applying mild or naturalized digeſtives is all that is neceſſary: for *calli* are owing to a ſtagnation, and thickening of lymph in the ſmall veſſels and interſtices of the fibres; and by diſſolving it, and promoting its diſcharge, the callus gradually diſappears. Every body converſant in practice muſt know, that enormous calloſities which Celſus uſed to cut off in chronic ulcers of the legs, ſubſide upon the application of emollient penetrating cerates, and mild digeſtives, as a regular diſcharge from the ulcer takes place; and they will not I am perſuaded be diſappointed, who truſt to this method, when calloſities preſent themſelves

in the inſtance before us. Nor when the callous parts are divided, ſo that a diſcharge may be procured from the lips of the ulcer, do I find it neceſſary even to ſcarify with the point of a lancet; though this is the gentleſt operation that chirurgical writers have adviſed.

Hitherto I have ſuppoſed the patient to be no otherways indiſpoſed, than happens in common critical abſceſſes; and I have ſeldom in ſuch inſtances found any other medical aſſiſtance neceſſary, than a mild regular diet, keeping the bowels open, and giving the bark, or the root of elicampane. The effect of the former of theſe remedies is well known, but the latter has not been ſo much attended to, though I think it is very beneficial in the piles, or in ſinuous ulcers about the rectum, when joined with rhubarb to keep the bowels open. I do not conceive it acts altogether locally, for I know

Internal treatment.

know it keeps up a conſtant and regular ſtate of perſpiration, and thus, I apprehend, relieves by making a derivation from the affected part. It is ſaid elicampane will bring on a ſalivation, but this I have never obſerved. I have known it frequently to amend the appetite, and I have had deciſive evidence of its relieving the piles, unattended with a viſceral fever, when other remedies in abundance have been tried in vain; but where there is a white tongue, and inward heat, *ſal polychreſt* or ſoluble tartar are better aſſiſtants.

Nevertheleſs, this diſeaſe may originate in, or be accompanied with a bad habit of body, from various cauſes, which muſt be cured by their proper remedies. When it happens in conſumptive people, a cure cannot be expected, unleſs the original complaint is removed; and I am ſorry to ſay, ſuch an event in that diſeaſe in the

the habit which brings on a *phthiſis pulmonalis*, ſeldom, or I believe, never takes place: the ulcer about the anus continuing to diſcharge poor thin matter, from a pale inactive ulcer, as long as the patient lives. But we muſt not miſtake conſumptive ſymptoms for a real conſumption, there being not any thing more common than violent nervous coughs, night ſweats, a waſting of the body, &c. accompanying the formation of matter about the rectum, which ſoon go off upon the matter being diſcharged.

Excreſcences in the rectum.

I have ſeveral times known excreſcences ariſe in the rectum, and I have puſhed them off as high as I could reach with my finger, with ſucceſs; but if this be neglected in the beginning, the gut in time is deſtroyed more or leſs by a corroſive ichor, and there is no hope of recovery. Abſceſſes all over the buttock happen in conſequence of this very unfortunate malady

lady. I have known the fæces accompanied with a very offenſive black ichor in abundance, diſcharged even into the thigh; but I do not remember an inſtance in this caſe, or when the pſoas abſceſs breaks in this part, of a recovery. All the relief I have been able to give my patients, was by enlarging the external opening, and removing thoſe ſymptoms which aroſe from acrid, and very offenſive matter being lodged: and when ſinuous ulcers ariſe from a cancer in the rectum, the event which happens when this diſeaſe cannot be removed will, inevitably take place; and our thoughts can only be directed to mitigating the ſufferings of the patient, as long as he lives.

Sometimes followed by an incurable abſceſs.

Obſtructions in the urethra often occaſion abſceſſes and ſinuous ulcers in the *perinæum* and the adjacent *nates*, juſt below the anus, which have ſometimes been miſtaken for *fiſtulæ in ano*; and yet after a diffi-

Obſtructions in the urethra ſometimes cauſe of abſceſſes about the anus.

a difficulty in making water, for ſome time, it being diſcharged drop by drop, or in a thin forked ſtream, there are commonly little ſinuſes into the paſſage through which the urine has eſcaped, which ſufficiently point out the different ſeats of the two complaints. It is true, the diſeaſe in the urethra, is ſometimes connected with the rectum, ſo as to occaſion a free communication betwixt theſe two paſſages, and an unnatural diſcharge of part of the fæces; but as the whole miſchief originates in the urethra, it is the firſt object of attention: and after this is become pervious, I ſee no way of making a radical cure, unleſs by laying open the ſinus formed betwixt the urethra and the gut. I once had an opportunity of putting this method in practice, but, upon deliberation, was diſcouraged by the uncertainty of ſucceſs; I ſhould however imagine that by making an inciſion in the ſide

of

of the urethra ſomewhat in the manner we cut for the ſtone, the ſinus might be detected, laid open and incarned. If this had ever been done with ſucceſs, I imagine we ſhould have heard of it. If it has been found impracticable, the want of ſucceſs ſhould not be concealed; and if it remains yet to be tried, I am certain it deſerves attention: being convinced there are few men, who would not undergo even a ſevere operation, to be cured of a moſt loathſome malady. Perhaps there are not many opportunities of making the experiment; for as far as I can judge, this unfortunate accident very rarely happens, which is a great happineſs to mankind.

Abſceſſes indeed from this cauſe in the *nates* or *perinæum*, may be opened and treated in the common manner, with ſome advantage; but rendering the urethra pervious is found to be the only way of obtaining

obtaining a radical cure. If the obſtruction is owing to a venereal cauſe, the oppoſite remedies take place, though nothing permanent can be done, but by a gradual and ſteady perſeverance in the uſe of mild bougies, as will hereafter more fully appear. The moſt troubleſome obſtructions of this ſort, are thoſe which happen in old people; and even thoſe may be mitigated by the ſame remedy, unleſs the diſeaſe ariſes from the proſtrate gland being ſcirrhous; and then very little relief is to be expected, except from keeping the bowels open and the uſe of opium.

Abſceſſes of the ſcrotum.

The ſcrotum is ſubject to gangrenous abſceſs; to a common purulent abſceſs; to an abſceſs from the *tunica vaginalis* being inflamed; and to another in the teſticles. The firſt reſembles a blown bladder, and will be ſpoken of in the Treatiſe of Gangrenes. The ſecond belongs to the cellular membrane, but is not attended

attended with the ſame kind of tenſion as other gatherings, though it is often enlarged to a very conſiderable ſize; the ſkin being thickened and ſpread wide, from its being in this part looſe and readily giving way: yet there are not any abſceſſes, in which a contraction takes place, or that heal ſooner after the matter is diſcharged, whence it is unneceſſary to enlarge upon the ſubject; but the two laſt ſorts now call for attention.

It is generally imagined, that inflammation of the teſticles is productive of many ſevere ſymptoms, and much danger *, but I am induced, from practice to believe, that this affection has not been properly diſtinguiſhed, and that there is no part within the ſcrotum, ſimply conſidered, attended with ſo little pain or inconvenience from inflammation and ſuppuration as theſe glands: and the

* See Heiſter. lib. i. cap. 5. p. 191.

follow-

following caſes will deſcribe the ſymptoms, uſual to this complaint under different circumſtances.

An abſceſs was formed in the teſticle of a man about thirty years of age from a bruiſe. When the accident happened, the patient felt a violent obtuſe pain, that occaſioned a nauſea; but by bleeding, warm fomentations, an anodyne, and *ſuſpending* the part, theſe ſymptoms preſently went off. Afterwards the teſticle ſwelled, the ſkin became red and rather hot, the *tunica vaginalis* was diſtended, but not ſwelled, the cellular membrane ſeemed no way affected, the tumor appearing to be one ſmooth ſolid ſubſtance, without any diſeaſe intervening between the ſkin and the coats of this gland. There was an obtuſe dull pain, but nothing conſiderable; the reſt of the ſymptoms were not ſo acute as in common inflammatory tumors, and the progreſs towards matu-

rity

tity under a white bread pultice, was rather ſlow. Therefore when the fluctuation became very evident, the matter was let out through an opening ſufficiently large, and a cure followed without any trouble.

Another man had a ſwelled teſticle for more than a year, which being taken for a ſcirrhus, was ſuſpended and treated accordingly; but the only ſymptom beſides the tumor, which affected the part, was a ſhooting pain at times. When I firſt ſaw him, a deep fluctuation began to be evident; but the ſwelling being deſtitute of that hardneſs which characterizes the complaint for which it had been taken, I adviſed the application of the *ſtictícum*, hoping the diſeaſe would ſhew itſelf with milder appearances than had been apprehended. The progreſs was however ſlow, and at the end of a month all the difference I could perceive was,

that the fluid appeared nearer to the ſkin, but ſtill without inflammation; which induced me to think of letting it out, to be certain about the nature of the complaint; knowing if my fingers had deceived me, and a cancerous ichor was diſcharged, it would put us upon immediately removing the teſticle, while there was every proſpect of ſucceſs from the operation: but I had the pleaſure of ſeeing good pus follow the lancet, and a recovery in conſequence.

I had a ſimilar caſe where the ſwelling of the teſticle had continued ſeveral years, ſuppoſed to be a ſcirrhus, and was removed to prevent fatal conſequences; but upon diſſection, it was found full of good matter, and perfectly correſponded with the chronic purulent abſceſs in the lymphatic glands of the breaſts, of which we have ſpoken.

We ſometimes meet with purulent abſceſſes

ſceſſes of the teſtes, which make a different progreſs, and have not that I know of been noticed. Theſe glands gradually enlarge, perhaps from ſome deficiency in the office of ſecretion, with a ſmooth ſurface and ſome kind of induration, but without inflammation or pain till they arrive at the ſize of a gooſe or ſwan's egg; they then ſometimes break, without the cellular membrane being thickened, and diſcharge good matter, like other abſceſſes. Sometimes they are accompanied with an hydrocele; but the abſceſs and hydrocele are diſtinct diſeaſes, and each require their own proper treatment.

A man had one of theſe tumors in each teſticle, which ſwelled to a large ſize, but when ſuſpended, without any pain. One of them was accompanied with an hydrocele, the other not. In about three months time they both broke, and diſcharged a conſiderable quantity of

good matter, without any alteration in the watry ſwelling, which was confined to one ſide of the teſticle only. About ſix ounces of water was drawn from it, and laying the cyſt open by a ſimple inciſion, a complete cure followed without the abſceſs or hydrocele interfering with each other.

Another was tapped for an hydrocele, and it was then diſcovered from an induration, that the teſticle was diſeaſed; but before any conſiderable quantity of water was again collected, an abſceſs which had not produced either pain or inflammation broke, and good matter being diſcharged from the body of the teſticle, as a probe evinced, the man got well without any trouble: and though a kind of induration remained ſome time after the ulcer was healed, yet by wearing a ſoft mild plaſter upon the part, it diſappeared.

Both

Both teſticles in a man about thirty years of age gradually enlarged with pain till each became bigger than a gooſe's egg; and at laſt one of them ſeemingly by diſtention and preſſure, occaſioned a ſphacelus at the lower part of the ſcrotum. The whole diſeaſe ſeemed to be a mild indurated ſwelling, without any deficiency in the office of theſe parts; the ſloughs ſeparated under the application of a mild digeſtive, and the diſcharge daily leſſened the tumor. At the ſame time, the other teſticle grew leſs under the ſticticum, and the patient I am informed is now got well. Whence I think it is evident, that a diſcharge from the part, before the fluids are extravaſated, will always effect a cure; and for this purpoſe an iſſue may be made, by an inciſion into, or a ſeton through the body of the teſticle, without danger, if an

attempt to remove the ſtagnating fluids by topical remedies prove abortive.

The ſtiĉticum probably reduced the other teſticle, by invigorating the nerves, and promoting a briſker circulation. I have already obſerved, that I have frequently ſeen it produce the ſame effect in lymphatic glands under the ſame predicament in other parts, unattended with inflammation; and I do not know a better application for the purpoſe. Perhaps vomits may aſſiſt diſperſion, by promoting abſorption; eſpecially if ſmall doſes of quickſilver by way of deobſtruent, are taken for a week or ten days preparatory to this evacuation.

All the abſceſſes in the teſtes flow in their progreſs.

I believe all purulent abſceſſes, which originate in the body of the teſtes, are rather ſlow in their progreſs; but I have known them quicker in ſuppurating, than thoſe mentioned. However, in every

very one the ſymptoms were ſimilar to thoſe firſt deſcribed; and having ſeen the teſticle miſerably cut, and torn to pieces, without any appearances but ſuch as happen to common wounds, I have been led to believe, that the inward part of this gland, like the parenchymatous part of the liver, and other lymphatic glands, does not bring on violent, but obtuſe pain: and during the time the matter is confined to the inſide of the teſticle, the ſymptoms are much milder than in common gatherings. Ever ſince I made this diſtinction, I have been able to determine from theſe ſymptoms, from the *tunica vaginalis* not being thickened, and the cellular membrane remaining unaffected, when inflammation and abſceſs were confined to the teſticle. Nor is an abſceſs of the *epididymis* more troubleſome, or any particular treatment required in the cure.

It is the *tunica vaginalis* when inflamed, which brings on the violent ſymptoms that were formerly ſuppoſed to ariſe from an inflammation of the teſtes; and I believe when a tumor reſembling a ſwelling of the teſticle is accompanied with a fever and pain in the loins, colic, delirium, &c. it is owing to the nerves in this coat being put into a ſtate of tenſion: and it is worth obſerving, that a moſt violent inflammation of this part, rarely affects the body of the teſticle; for we daily ſee in gangrenous abſceſſes of the ſcrotum, the whole *tunica vaginalis* ſlough away, without the *tunica albugenia* being at all injured; and I believe there are no diſeaſes more diſtinct than thoſe abſceſſes which happen to this gland, and thoſe which happen to its coverings.

Abſceſs of the teſtis and tunica vaginalis diſtinct diſeaſes.

However, the abſence of theſe violent ſymptoms is no proof that the *tunica vaginalis* is not inflamed; as is evident in the

the radical cure for the hydrocele, whether by the ſeton or cauſtics. For in theſe inſtances we are certain of inflammation, and even ſuppuration taking place; and yet if the ſcrotum be ſuſpended, and the weight of the teſticle not ſuffered to ſtretch the ſpermatic cord, no ſymptoms of conſequence happen; or when they do come on, in the beginning of critical abſceſſes, before we ſee the patient, they are mitigated or removed, by keeping the ſcrotum up againſt the belly, giving opium, purging anodyne clyſters, applying an emollient pultice, and laying the patient in bed on his back, with his knees drawn upwards. Nor when a delirium comes on, does it appear to me to portend that danger, which has generally been imagined; it being only a ſympathetic affection of the brain, and I believe will always go off, when a diſſolution of the parts principally affected takes

takes pla : and accordingly, we ſee ſurgeons have expected the death of patients under ſuch circumſtance, for many days together, when an abſceſs forming put an end to their fears*.

Abſceſs in the ſcrotum from the *tunica vaginalis* being inflamed.

Now whenever an abſceſs of the *tunica vaginalis* ariſes, a ſuppuration of the adjoining cellular membrane, makes in the end part of the diſeaſe. This ſometimes happens in what is called the *hernia humoralis* from a gonorrhœa being ſuddenly ſuppreſſed; for this coat (and not the teſticle,) together with the cellular membrane, by conſent from irritation, become inflamed; and it is well known, if this inflammation be not removed in the beginning, an abſceſs is not unfrequently the conſequence. Before the obſtructed fluids are extravaſated, this may moſtly be accompliſhed, by renewing the diſcharge from the urethra. For this purpoſe the

Under what ſtate it may ſometimes be prevented.

* See Sharp's ſurgery chap. ix. caſe 1ſt. &c.

common

general method of bleeding, giving calomel, Glauber's ſalt, &c. applying an emollient pultice, and giving opium, is generally ſucceſsful; though, if a neutralized ointment be employed, the inflammatory ſymptoms ſooner diſappear. Mercurial ointment is not neceſſary, and increaſe the diſeaſe by irritation. Mercurial vomits I know have often done ſervice, but I do not think they are more effectual than vomits of ipecacuanha; and I have frequently known a cure by diſcuſſion accompliſhed, by the application recommended, and ſmall doſes of Glauber's ſalt, taken daily for a week together, diſſolved in water. However, if the diſorder has made too great a progreſs before this proceſs is purſued, and ſuppuration comes on; though the vaginal coat is affected, no peculiar treatment except ſuſpending the ſcrotum is required. From all which it is evident, that

that to treat abſceſſes within the ſcrotum, with propriety, we muſt conſider inflammation of the teſticle, of the *tunica vaginalis*, and of the cellular membrane, diſtinctly.

Abſceſs under the *faſcia lata* of the thigh.

When abſceſſes are formed under the *faſcia lata* of the thigh, it would be hazardous, or at leaſt productive of much miſchief, to ſuffer the matter to be confined, till diſcharged by an opening made by nature; for not being able to make its way through this membrane, it gradually deſcends, and forms a tumor quite down to the knee, unleſs prevented by a timely opening. When neglected, I have been ſeveral times obliged to open theſe tumors the whole length of the outſide of the thigh to perfect a cure; but I have ſtopped their progreſs, by letting out the matter at a much earlier period. A ſmall ſwelling appeared, juſt below the great *trochanter* in a boy's thigh, without inflammation

flammation or pain; and in eight or ten weeks time increaſed to the ſize of a gooſe's egg. I watched it ſome time longer, and ſeeing it daily ſtretch under the *faſcialata* down the thigh, I opened it from one end to the other, and a recovery immediately followed.

Abſceſs under the foot.

An abſceſs is ſometimes formed betwixt the muſcles on the under ſide of the foot, and the bones, which has been readily cured, by making a large inciſion in a line from the ſide of the great toe towards the heel, and where this has been omitted, *fiſtulæ* or a tedious cure has been the conſequence. But from the foot we muſt aſcend to the hand which has hitherto been omitted

Wiſeman agrees with Parey, Hildanus, and other writers, and very juſtly obſerves, that "while we endeavour ſup-
"puration in the *paronychia maligna*,
"the bone will certainly corrupt: but if

Paronychia maligna.

" if we make a deep inciſion in the be-
" ginning of the diſeaſe, before the hu-
" mor hath altered the part, a cure will
" follow;" which perfectly agrees with right reaſon, and daily experience. For by cutting the ends of the tendons, &c. we come immediately to the affected part, eaſe pain by taking off tenſion and by removing irritation, frequently prevent the progreſs of the diſeaſe.

There are ſome appoſite caſes in this writer, which will ever be inſtructive, and we ſhall tranſcribe ſome of them as patterns, and as undeniable evidence in favor of the practice he adviſes. " A
" gentlewoman (ſays he) came to my
" houſe one night late, complaining ex-
" ceedingly of a pain in the pulp of one
" of her fore fingers: I looked upon it, and
" felt it hot, but ſaw nothing of ſwel-
" ling, whereby I could judge it ſo ill;
" though ſhe ſeemed ready to ſwoon with
pain.

" pain. I propoſed the making an inciſion " into it to the bone, not imagining ſo " fearful a creature, would have permitted " it; but ſhe readily aſſented: whereupon " I preſently made a puncture deep in " the moſt pained part to the bone, and " ſuffered it to bleed, while I made a " dreſſing of *unguent. baſilicum* to ap- " ply upon it, with an *emplaſt e bolo*; " which being applied, ſhe complained " of the ſmarting of the wound, but ſaid " it was nothing to the pain ſhe felt be- " fore. The next day I waited upon " her at her lodging: ſhe had ſlept well " that night in perfect eaſe. I took off " the dreſſing, and ſaw the wound ag- " glutinated, then dreſſed it as the night " before, and from that time dreſſed it " no more. After the ſame manner I " have freed many in the beginning of " the diſeaſe." The remainder of his caſes are well worth reading, but we ſhall make

make an abſtract from another of them, that we may have the whole of his practice, in preventing great ſuppuration. In the inſtance cited, relief ſeems to have been procured by taking off tenſion by inciſion; in the following, by promoting a diſcharge from the affected veſſels.—A young man was afflicted with a pain in the pulp of his thumb. After three or four days trial of ſeveral applications, it inflamed and ſwelled; an inciſion was made to the bone, which bled and gleeted a few drops. The ſecond day after, the wound was opened and undigeſted. Dreſſed it with precipitate plaſter, and bandage. The third day after, a ſlough came off, and left the ulcer diſpoſed to digeſtion. Precipitate and baſilicon, and *drapompholygos* were now applied; digeſtion followed, and he was cured in ſix or ſeven days. He ſuppoſes, very rationally, that its not healing by agglutination

nation, as the other did, was from the alteration the ichor had begun to make at the bottom of the wound, which he thinks enough to ſhew the neceſſity of laying theſe tumors open in the beginning. I myſelf, have frequently ſeen this complaint removed by ſuch practice, and applying a mild digeſtive, or a neutralized ointment; and I do not remember ever knowing it terminate by ſuppuration, in which the firſt joint of the finger did not come away,

Paronychia ſimplex.

It has the epithet *maligna*, to diſtinguiſh it from the ſimple whitflaw, which ariſes at the root of the nail, betwixt the cuticle and ſkin, and gives way to any remedy which does not irritate; but this has its ſeat in the tendon, membrane, or bone, or all of them at the end of the finger, or inſtead of the cellular membrane, which is ſecondarily affected, and converted into matter, by the ichor the membranes pro-

duce; and the ligaments, &c. diſſolving, muſt of courſe ſet at liberty the joints they connect together. It is a moſt painful diſorder, from the particular ſtructure of the part, the nerves being violently ſtretched by membranous diſtenſion. The whole hand and arm often ſhare in the torture, by nervous connection; and pain coming on, before any ſwelling appears, and its ſhortly being accompanied with an eryſipelas, are criterions which diſtinguiſh the nature and ſeat of the diſeaſe, which is out of the reach of medicaments. I have tried to remove it at the onſet by neutralized applications, without effect. Even brandy which by leſſening irritability, often effectually ſuppreſſes a ſimple whitflaw, does not penetrate deep enough in this, unleſs we follow the practice of Hildanus* by applying it after a wound is made

* Cent. Jo. ob. 97, p. 78. Theſe caſes ſhould be read.

through

through the ſkin. But ſeeing the pain, &c. abates by an inciſion alone; I never have made uſe of this application, nor does bleeding or purging avail in removing the obſtruction, and its conſequences. I have even ſeen a ſphacelus prevail, where theſe evacuations were carried to a great length, notwithſtanding hemlock was called in to their aſſiſtance; and ſuch folly have I ſeen in thoſe attached to this medicine, that when the pain ceaſed from the end of the finger being black, and actually dead; the preſcriber attributed the eaſe the patient enjoyed, to the wonderful power of this coarſe narcotic drug!

Where we are not called ſoon enough to prevent ſuppuration, the degree of irritability in this complaint often riſes to one hundred and twenty or more; but this we have before obſerved *, is not to be regarded. And to the beſt of my remem-

* See Pulſe Table.

brance, where phyſic is neceſſary, opium, keeping the bowels open, and ſaline medicines, were perfectly ſufficient during the inflammatory ſtate of the diſeaſe. A white bread pultice is the beſt application to bring the abſceſs to a head; and I have always found, by dreſſing the putrid tendon with lint dipped in tincture of myrrh, ſurrounded with a mild digeſtive, or neutralized ointment; the firſt joint in time comes away, and the cure is ſoon followed, by the aſſiſtance of dry lint, cerate, and bandage.

Abſceſs in the fingers.

Sometimes, inſtead of fixing upon the end, the inflammation begins upon the tendon, or its ſheath, or both, in the middle of the finger; it is exactly the ſame diſeaſe, and requires the ſame management in the beginning. Otherwiſe it not only diſſolves theſe parts, but matter is formed in the next joint, which often becomes carious. The matter ſometimes

times makes its way into the hand, or even, if not ſtopped, into the wriſt, diſſolving the tendons all the way it paſſes; under which circumſtances, free openings muſt be made, a ſeton paſſed* if neceſſary, under the annular ligament. But dividing it, which I have heard has been attended with very troubleſome conſequences, from the ſtarting up of the tendons, is not at all neceſſary; for by dreſſing in the manner juſt deſcribed, the putrid tendons will in time ſlough away, and the ſooner if no force is uſed in extracting them. For if they are not looſe enough to be removed readily, by pulling we injure the living fibres, and ſpread and protract the malady. Pultices ſhould be laid aſide as ſoon as the ſwelling will permit, for by relaxing, they increaſe putrefaction; drying dreſſings are therefore preferable. We ſhould not be too haſty in amputating a looſe joint

Sinus under the annual ligament how to be treated

* See backward.

in the finger; for if the matter is not ſuffered to lodge, which ſhould be carefully attended to, the cartilages covering the end of the joint will come away, and a ſtiff finger be the conſequence, if properly aſſiſted with bolſters and bandages Nor ſhould we forget in the beginning of this complaint, while the tendon is in a ſtate of inflammation, to keep the finger a little bent, to avoid *tenſion*; which has been known in this caſe, to bring on horrid ſymptoms, and even the neceſſity of cutting the tendon through, to give relief. It is remarkable that many of theſe abſceſſes happen at the ſame time, in the ſame manner that we ſee ſore eyes, &c. prevail in particular ſeaſons.

The abſceſs we have been deſcribing, is diſtinguiſhed, from that which ariſes betwixt the ſkin and the tendinous ſheath, in the middle of the finger, by exquiſite pain, before the parts begin to ſwell.

Whereas

Whereas the other is a common abſceſs, and the ſwelling and the pain commence together. When it becomes ripe, the cuticle covering the part, often forms a bladder full of matter; underneath is an aperture through the ſkin, which has rather a ſpungy appearance, but no particular treatment is required in the cure. Some adviſe us to open theſe abſceſſes early, leſt the matter ſhould injure the membrane beneath; and when formed, it may be prudent in hard working people, where the ſkin is almoſt become callous, to follow this advice; otherwiſe if the ſkin of the finger be ſoft, the matter will ſooner make its way outward, than injure the membranes. And I do believe, when we meet with putrid tendons in an abſceſs in the middle of the finger, the diſeaſe originated for the moſt part in the tendon; becauſe I have ſo often

ten ſeen it in this part, without the tendinous ſheath, &c. being injured.

The abſceſs which ſometimes happens under the flexor muſcles of the fore-arm, has already been ſpoken of, and that ariſing from the aponeuroſis of the tendon being pricked in bleeding, will be noticed in wounds of the membranes.

Carbuncle.

The *Anthrax* of the Greeks in one kind of ſphacelus*, but the modern carbuncle of which we have already ſpoken †, being deſtitute of the ſymptoms which characterized the diſeaſe, muſt be conſidered as a ſpecies of purulent abſceſſes that rarely requires any particular treatment: there are ſome peculiarities in the complaint, but none to which the methods of cure laid down are not applicable; remembering the ſaying of Wiſeman‡, "That the moſt dangerous ſymptom

* See Sphacelus † Med. Surg. vol i. p. 320.

‡ Book i. chap. 19.

"of

" of all is the return of the matter of " the carbuncle into the blood again; " and conſequently that diſcuſſion ought not to be attempted. It has an Eryſipelatous kind of appearance, is rather hotter and harder in the beginning than other abſceſſes, owing I apprehend to the ſlow diſſolution of the cellular membrane, both which and the ſkin acquire a hardneſs in the manner before mentioned *.

Though no part of the body is exempt from a carbuncle, yet it chiefly ſhews itſelf on the back and ſhoulders, about the hips, &c. and there is one circumſtance which ſometimes happens, that I never obſerved in other abſceſſes, the matter being diſcharged through apertures in the ſkin reſembling a ſieve; after which the ſkin ſubſides, and unites with the ſubjacent parts. They more commonly however require opening, and often freely;

* Med. Surg. vol. i. p. 320.

that

that the undiſſolved cellular membrane may get at liberty. I have ſeen larger abſceſſes of this kind upon the back than on any other part. A man had one of them which that ſpread from the top of his ſhoulders to his hips, and being imperfectly opened, a colliquative fever together with low diet were near deſtroying him; but upon making inciſions, ſo that neither matter nor air could be confined, and allowing him a fuller diet, with two or three quarts of ale a day, a medium of what he had been uſed to, he recovered; and the laſt time I ſaw him, had regained the corpulency of body he before enjoyed.

Writers have diſagreed about the meaning of the term phlegmonoid eryſipelas; for Platner *, who calls a ſimple eryſipelas a ſpurious kind of inflammation, ſays in his diviſion of theſe diſeaſe, when it is

* Inſt. Chir. 158.

accom-

accompanied with a true inflammation, it is called ερυσιπελας φλεγμονώδες. But writers of more authority in this inſtance, have ſaid it has a mixture of an erifipelas and what we have called a purulent abſceſs; for though the word phlegmone, as has already been obſerved, has truly no other meaning than *inflammation*, yet it has conſtantly been uſed, both by the ancients and moderns, to ſignify an inflammation in the adipoſe membrane, ending in ſuppuration. Accordingly, when an erifipelas and an abſceſs happened in the ſame part, both at the ſame time, it was called by a name, compounded of both theſe affections *. If however we call it an eryſipelas with a purulent abſceſs, or for ſhortneſs a purulent erifipelas, we ſhall employ a more ſignificant term, than that which has

* See Van Sw. Com. ſect. 380.

been

been in uſe. Nevertheleſs, it muſt be remembered, that the abſceſs, and eriſipelas, are diſtinct diſeaſes; and that each has its own manner of terminating †. The eriſipelas either by diſperſion, ſuperficial ulcers, or mortification; and the abſceſs by ſuppuration: though they are ſo far joined, that the abſceſs will keep up the eriſipelas, till the matter be diſcharged, and it then ſubſides. It is only when the eriſipelas and tenſion are violent, that a ſphacelus takes place ‡; of which abundance of inſtances are daily met with in practice and in books, but one will ſet the whole buſineſs in its true light.

A gentleman about thirty years of age, was ſeized with an eryſipelas all over one of his legs, attended with all the ſymptoms uſual to local inflammation; his

† Med. Surg. vol. i. p. 321.

‡ See Sphacelus

phy-

phyſician, and ſurgeon, employed the remedies uſual on ſuch occaſions, for eight or ten days, when a ſphacelus beginning to appear in ſeveral places of the leg, which alarmed them, they deſired my aſſiſtance. Upon examination, matter was now found to fluctuate, and being let out, and a white bread poultice applied, the ſkin from one end of the leg to the other ſeparated in ſloughs, and a cure followed, while he was taking the bark, and common dreſſings were applied.

Phlegmonoid œdema.

The inflammatory œdema is ſometimes, though rarely, accompanied with a purulent abſceſs; but when this happens, warm plaſters are preferable to emollient cataplaſms, and when the matter is let out, the part affected may be treated as before directed. After all, it ſometimes happens, purulent abſceſſes terminate by inſpiſſation, the thinner part of the matter being abſorbed; but this is readily

When Purulent abſceſſes terminate by inſpiſſation, how to be treated.

ly diſtinguiſhed by the touch, and the part being laid open by inciſion, and digeſtives applied, a cure follows of courſe. All we have at preſent to ſay upon this ſubject, is therefore finiſhed; though ſome other kind of abſceſſes, will be taken notice of in their proper place.

ON

ON
GANGRENE,
AND
SPHACELUS.

PREFACE.

WE are now to proceed to the inflammation which terminates in gangrene and ſphacelus; a ſubject, on which I have treated many years ago *: but that being my firſt eſſay, I have the ſatisfaction, of making ſuch alterations and additions, as time and experience have ſince dictated. In ſhort, I found it expedient to write a new treatiſe, and have made uſe of the old materials in the manner which beſt ſuited my preſent ideas on the ſubject.

* In 1754.

CHAP. V.

ON FORMER OPINIONS.

HILDANUS, in his firſt chapter *de Gangrena & Sphacelo*, obſerves, *Bene Cicero omnis inquit, quæ a ratione ſuſcipitur, de aliqua re inſtitutio, debet a definitione proficiſci ut intelligatur quid ſit id, de quo diſputatur: omiſſa autem definitione, fluctuat tractatio:* we ſhall therefore draw into a ſhort compaſs, the different opinions about gangrene and ſphacelus, that we may more clearly aſcertain the ſubject. The utility of definition.

Etymologiſts have derived the word Γαγραινα, from Γραω, *commedo*, or from Γρανειν or Γραινειν, becauſe they ſay it is a diſeaſe, which eats or conſumes the fleſh. The opinion of different Etymologiſts.

Some derive it from Γαγγρος, which they tranſlate cancer; others with more reaſon ſay it is a primitive in the Greek, and we will therefore ſee what Hippocrates our firſt writer ſays upon the ſubject.

Gangrene what, according to Hippocrates.

In ſpeaking of the ſymptoms which follow fractures with contuſion of the heel *, he deſcribes a gangrene, when he ſays, "the parts may become livid, a "bloody ichor be diſcharged, and a "gangrene from compreſſion; and this "may happen without any other ſpha-"celus." Conſequently it is a ſtagnation in the juices, and a beginning of putrefaction: for though in this inſtance, he ſeems to uſe the words gangrene and ſphacelus ſynonymouſly, yet in many other places he ſays expreſsly, that the latter is a perfect corruption of the part it affects.

* De Fracturis, ſect. XII.

It

It is imagined that Celſus * uſed the words cancer and gangrene indifferently to expreſs the ſame diſeaſe, but he ſurely makes a clear diſtinction betwixt them; for having deſcribed a cancer in ſpeaking of the unſucceſsful cure of wounds, he ſubjoins, "and ſometimes there follows what the Greeks call Γαγγραινα." But to form a true judgment it muſt be obſerved, that the word cancer uſed by Celſus, is a primitive in the Latin language, and ſignified according to his account †, one kind of putrid ſinuous ulcer;

The words cancer and gangrene not uſed ſynonymouſly by Celſus

* Lib. v. cap. 26.

† *Interdum vel ex nimia inflammatione, vel ob æſtus immodicos, vel ob nimia frigora, vel quia nimis vulnus adſtrictum eſt, vel quia corpus ſenile, aut mali habitus eſt, cancer occupat. Id genus a Græcis diductum in ſpecies eſt; noſtris vocabilis non eſt. Omnis autem cancer non ſolum id corrumpit, quod occupavit; ſed etiam ſerpit: deinde aliis aliiſque ſignis diſcernitur. Nam modo ſuper inflammationem rubor ulcus ambit, iſque cum dolore proredit:* ερυσιπελας *Græci nominant: modo ulcus nigrum eſt, quia caro ejus corrupta eſt,*

ulcer; and I believe it is owing to this matter not being rightly underſtood, that Foeſius, Vander Linden, and Cornarius, have in their editions of Hippocrates, tranſlated the word *gangraina*, ſometimes *gangræna*, ſometimes *cancer*, *cancrum*, or *carcinoma*; which has occaſioned great perplexity among ſubſequent writers. Whereas Celſus, inſtead of uſing theſe terms ſynonymouſly, employs them in different ſenſes. What he meant by gangrene will inſtantly appear. We have juſt explained the Latin word *cancer*. The word *cancrum* was uſed to ſignify what

His meaning of the word cancer

idque vehementius; etiam in putreſcendo intenditur, ubi vulnus humidum eſt, & ex nigro ulcere humor pallidus fertur malique odo i eſt, & caro intus corrupta: interdum etiam nervi ac membranæ revolvuntur, ſpecillumque demiſſum deſcendit aut in latus, aut deorſum, eoque vitio non nunquam os afficitur: modo oritur ea, quam Græci γαγγραιναν appellant. De ulceribus, quæ extrinſececus per vulnera incidunt, curationibuſque eorum.

the

the Engliſh call the canker, as his 15th cap. in lib. vi. *De cancro oris* proves; and *carcinoma*, what is now called a cancer, for the καρκινωμα of Hippocrates. The *carcinoma* of Celſus, and the *cancer* of the moderns, are both the ſame complaint; and therefore the Latin and Engliſh word cancer, have very different ſignifications.

And deſcription of a gangrene.

His deſcription of a gangrene ſeems to comprehend both gangrene and ſphacelus; for he ſays "the fleſh is either black "or livid, but dry and withered, and the "adjoining ſkin, is for the moſt part co-"vered with filled puſtules of a black-"iſh colour. The next to that, is ei-"ther pale or livid, commonly of an "æruginous colour, and void of ſenſa-"tion; the ſkin a little farther off is in-"flamed, and all theſe ſpread at once: "the ulcer into the puſtulous part, the "puſtulous to the part that is pale or

" livid, the paleneſs or livor to that " which is inflamed, and the inflam- " mation proceeds to that which is " ſound. In the mean time an acute " fever comes on and a vehement thirſt; " ſome are alſo delirious, others though " they be ſenſible, ſtammer and can with " great difficulty make their meaning " underſtood; the ſtomach begins to be " affected, and the breath itſelf acquires a " fetid ſmell: which diſorder in the be- " ginning admits of a cure, but when it " is thoroughly rooted it is incurable, and " moſt of them die with cold ſweats."

Galen's opinion.

Galen in his book on tumors contrary to nature, ſays, " A gangrene is occa- " ſioned by a ſcalding blood, accompa- " nied with inflammation, that parches " as it were the ſkin; and that it is a " corruption of the ſolid parts of the bo- " dy without affecting the bones;" but when along with theſe the bones are corrupted

rupted, and the whole are insensible, it is a sphacelus. In another place * he observes "It is a mortification not actually formed but approaching; being the intermediate state between the "height of inflammation and sphacelus." Which doctrine has been implicitly copied by Paulus, Aetius, and subsequent Greek writers.

The Arabian, account of a gangrene, &c.

The Arabians however added a third distinction; for Avicenna † treats *de esthiomeno, & differentia inter gangrænas & aschachilos:* by which it appears that their gangrene and *aschachilos* were the gangrene and sphacelus of Galen, and *esthiomenus* a spreading sphacelus; which appellation has ever since been retained.

Guido,

Guido treats of gangrene under the name of *esthiomenus* ‡, and denies its be-

* De Arte Cur. ad Glan. cap. 9. lib. ii.
† Lib. iv. Fen. 3. Tract. 1 E. cap. xv.
‡ De Crab. Anthrax & Esthiom.

ing

ing the ſame diſeaſe as the wolf and canker, with which ſome had confounded it; becauſe the gangrene deſtroys the member by corrupting and ſoftening, whereas the other corrodes and hardens; which ſurely is a juſt diſtinction.

Neverthelefs the Greek gamma having been reſolved into the letter *c* in the Latin language, (which upon enquiry I find ſometimes happens), Johannes de Vigo * uſes the word *cancrena* for *gangrena*, and ſays it is called *cancrena* becauſe it is like a canker which corrodes and deſtroys the parts about: and thus by attending to words, inſtead, like Guido, of attending to the diſeaſe itſelf, he propagated confuſion. In other reſpects he copied from Avicenna and explains the meaning of the Arabian words.†

Vigo's account.

* Lib. ii. Tract. 10. de Apoſtom. cap. 16.

† Ethiomenus, *ab heſte*, an Arabic word for an enemy, and *menos*, *ardor animi*: *Aſchachilos*, *ab aſca*, in Arabic corruption; and *chilos*, juice.

Veſalius

Veſſalius † treads in the ſame path, and ſhews the affinity of the Arabian terms of art with the Greek and Latin languages. He obſerves that all the names employed by the Arabians about gangrenes, &c. and thoſe which correſpond with them in other languages, mean one and the ſame diſorder. Wherefore he comprehends both gangrene and ſphacelus under the word *gangræna*: for he ſays, "That gangrene "is the worſt, which corrupts the part "it affects; eſpecially when the corrup-"tion has wholly taken place; becauſe it "admits of no cure, except cutting off." Perhaps he choſe to treat of the whole diſeaſe under the term gangrene, becauſe he ſays the word ſphacelus amongſt the ancients, was of equivocal meaning, for which he gives his reaſons; and were we to believe the ſeventieth aphoriſm, of Veſſalius.

† Chirug. Mag. lib. v. cap. 13. de Gangrena.

the

the ſeventh book of Hippocrates * to be a true copy, we muſt be of the ſame opinion. But it is ſo contrary to his general aſſertion, that we are led to ſuppoſe, the word *ſphacelus* inſtead perhaps of the word *inflammation*, has erroneouſly crept into the text.

Hildanus

Hildanus † purſues the general Greek line and is more explicit than many of the copiers. He ſays a gangrene is for the moſt part ſuperficial, in the ſkin, muſcles, and other ſoft parts. In a ſphacelus not only theſe but the bones themſelves are alſo affected. In a gangrene the ſkin is red from the greatneſs of the inflammation, but in a ſphacelus, it is firſt pale, then livid, and preſently black. In a gangrene there is no ſtench, but in a ſphacelus the limb rots and emits a peſti-

* Thoſe afflicted with a ſphacelus of the brain, die within three days, but if they outlive this time, they recover.

† Cap. de Gangrena.

ferous

ferous fœtor. If we make an inciſion in a gangrene, the patient has exquiſite feeling, but when it is deſtitute of ſenſe, it ought to be called a ſphacelus.

Fabricius ab Aquapendente * who had examined former writers with great accuracy, looks upon this laſt, to be the principal diſtinction, and concludes that gangrene and ſphacelus are only different degrees of the ſame diſorder; and by ſome, they have ever ſince been uſed as ſynonymous terms. Fabricius.

* Lib i. cap. 19,

CHAP.

CHAP. VI.

ON FORMER PRACTICE.

A prognoſtic of Hippocrates.

HIPPOCRATES, in his prognoſtics, ſays, "a thorough blackneſs of the feet and fingers, is leſs fatal than a lividneſs. Other ſymptoms however are to be taken into conſideration; for if the patient appears to bear his illneſs with eaſe, and any other promiſing ſigns ſhew themſelves at the ſame time, there is room to hope the diſeaſe will ſeparate, ſo that the patient may be ſaved, loſing only thoſe parts that have turned black, But if there be any bilious vomiting attended with reſtleſſneſs, or heavineſs of the eyes, or loſs of voice, or any unwillingneſs to ſpeak, or any delirium, they are certain ſigns of convulſion and death."

Celſus

Of Celſus, and his method of treating the diſeaſe.

Celſus tells us, "It is not very difficult to cure a gangrene, if it has not got full poſſeſſion, but is only beginning, eſpecially in a young perſon; and eaſier ſtill if the muſcles are ſound, or if the tendons are either untouched or but ſlightly affected, and no large joint laid bare: or there be but little fleſh in that part, and conſequently not much to putrify; and if the diſorder be confined to one place, which chiefly happens in a finger. In ſuch a caſe the firſt thing to be done, if the ſtrength will allow, is to let blood, after that to cut through the ſound fleſh; for whatever is dry by a kind of tenſion, is uneaſy to the contiguous parts.

"*While the diſorder is ſpreading, no ſup-*
"*purating medicaments are to be uſed; and*
"*for that reaſon not ſo much as a warm*
"*bath.* Thoſe alſo which lie heavy, al-
"though they keep the dreſſings together,
"are

" are foreign to the purpoſe; the lighteſt
" dreſſings therefore are required; and over
" the parts that are inflamed, coolers ſhould
" be applied. If the diſeaſe is not ſtopped
" by theſe remedies, betwixt the ſound and
" corrupted parts ought to be cauterized.

" In this caſe eſpecially, aſſiſtance muſt
" not be ſought for from medicaments
" alone, but from a due regimen; for this
" diſeaſe never appears but in a corrupt and
" vitiated habit. Wherefore in the firſt
" place, unleſs weakneſs forbid, the patient
" muſt live abſtemiouſly. Food and drink
" muſt be given that will bind the belly,
" and conſequently the body alſo; but theſe
" muſt be of a light nature. Afterwards, if
" the diſorder ſtops, the ſame applications
" muſt be uſed as have been preſcribed
" in a putrid ulcer, and then alſo a fuller
" diet of the middle claſs may be allowed:
" but notwithſtanding unleſs the *primæ viæ*
" and the whole body are dry, cold rain-

" water

water ſhould be drank. The bath, unleſs we are confident of a cure, is hurtful; for the ulcer being ſoftened by that means, is quickly affected again with the ſame diſorder. But ſometimes it happens that all theſe remedies do no ſervice, and notwithſtanding all their force the gangrene ſpreads; in which caſe the miſerable but only method to ſave the reſt of the body is to cut off that limb which is periſhing by degrees."

Galen* ſays, The cure of a gangrene conſiſts in evacuating the blood confined in the diſeaſed limb (becauſe it is the cauſe of the ſucceeding mortification), and in promoting ſweat. Therefore many deep ſcarifications are to be made, the blood muſt be ſuffered to diſcharge, and then a cataplaſm applied, which reſiſts putrefaction, made of oxymel, vetch- Galen's method of cure.

* De Arte Cur. ad Glan. lib. ii. cap. 9.

meal, or darnel, or bean flour. If ſtronger remedies were required, ſalt or troches, then in uſe were added, making the application ſtronger or milder according to the ſtate of the patient. Putrid fleſh was cut away, and for greater ſecurity, its roots connected with the ſound parts were cauterized, eſpecially in the pudenda. Afterwards the eſchar was digeſted off by the remedies then in uſe, ſuch as juice of leeks, honey, &c. and the ulcer being filled with new fleſh was cicatrized.

On the other hand, he ſays, when the affected member is dead, cannot feel when pricked, cut, or burned, it ought immediately to be cut off, that it may not affect the parts which are ſound: and this practice paſſed through the hands of the Greeks without alteration. The Arabians however made ſome additions to the remedies uſually employed; for Avicenna adviſes to apply a defenſative, compoſed

The Arabian method.

poſed of Armenian bole, *terra ſigillata*, and vinegar, above the mortified part to prevent the ſpreading of the diſeaſe; and recommends *Egyptiacum*, ſo much eſteemed by ſubſequent writers for its power in ſubduing putrefaction in mortified limbs. Afterwards, little or nothing more was done than copying from one to another, till the beginning of this century. No one, either among the ancients or moderns that I can diſcover, carried into practice what Celſus ſaid about the impropriety of applying ſuppurative medicaments and warm water; and of the warm bath occaſioning a return of the diſeaſe in a ſpreading ſphacelus: on the contrary, it has been theorized away by the Baron Van Swieten *; warm fomentations have been in conſtant uſe; and I am perſuaded have very frequently

A rule of Celſus neglected.

And theorized away.

* Com. in Boerh. ſect. 437.

increaſed the progreſs of the diſeaſe. Perhaps this might be one cauſe why Cheſelden * obſerved, "That he had "known many mortifications ſucceed "well, when left to ſeparate; but few "that had been otherwiſe treated; and "that he had known ſucceſs, where the "patients had the happineſs to have no "one about them to interrupt the kind aſ-"ſiſtance of nature." Even long after the period mentioned, amputation to prevent the ſpreading of a gangrene was ſtill in uſe, notwithſtanding Le Dran †, upon taking a view of the ſubject, had ſaid "To "cure a gangrene from an internal cauſe, "you muſt be able to change the ill diſ-"poſition of the blood in a ſhort time, "and to invigorate it, but it has been "hitherto impoſſible;" and that "am-"putation in ſuch inſtances afforded no "relief."

A remark of Cheſelden.

Amputation to ſtop gangrene.

Le Dran's opinion about it.

* Anat. 7 Ed. p. 208.

† Ob. 110. in 1727.

Never-

Nevertheleſs, there are many caſes upon record, where the ſpreading of *ſphaceli* have been ſtopped by amputation, by the cautery, and by quickſilver diſſolved in aqua fortis, &c. all which muſt have been local complaints: and had their practice been confined to the diſeaſe thus circumſtanced, ſucceſs might oftener have warranted their proceedings. But proper diſtinctions not being made, amputation was indiſcriminately performed, and the diſeaſe re-appearing, induced ſurgeons to join Le Dran in opinion that though amputation might be neceſſary, it never ought to be done till the mortification had ſtopped, and ſeparation of the dead parts ſomewhat advanced: eſpecially as Mr. Ruſhworth of Northampton had now luckily diſcovered, that Peruvian bark has a power of ſtopping mortifications, it was imagined that having an inward remedy capable of ſubduing

Sometimes ſucceſsful and when.

The reaſon of its being often unſucceſsful.

Which induced ſurgeons not to amputate till the mortification is ſtopped; eſpecially as Ruſhworth had diſcovered the uſe of the bark in them.

this malady, the uncertain uſe of the knife was no longer neceſſary.

This diſcovery thought to be a happy event.

The inefficacy of cordials, alexipharmics, &c. in the cure of this complaint when ariſing from an internal cauſe, induced the faculty to look upon this diſcovery as a moſt happy event; and phyſicians and ſurgeons from every quarter teſtified its power by experiment in caſes of this ſort which came before them. Heiſter, who had only heard of what it had done, after ſpeaking of the medicines in common uſe, ſays "But if the *cortex Peru-* "*vianus* has the effect attributed to it, we "need not be troubled with ſuch a train "of ineffectual remedies."

Indiſcriminately uſed, and thence near ſinking into diſcredit.

Unfortunately however, like amputation, the bark was indiſcriminately uſed with equal expectation of ſucceſs; and failing no doubt in many inſtances, like all other remedies, where unreaſonable hopes are entertained, it has been near

ſinking

ſinking into diſcredit, among thoſe who expected it to be a ſpecific in every ſpecies of this diſeaſe. A misfortune common to popular remedies, which under a prudent exhibition might have been valuable acquiſitions to mankind. There cannot I am perſuaded be any doubt of its powerful and advantageous effects in ſome kind of mortifications; though effects may have been aſcribed to it which were owing to nature. In others if too haſtily given, it certainly does miſchief. In ſome, no aſſiſtance can be expected from it; and the ſame may be ſaid of opium, of inciſions, and fomentations, in gangrened and mortified parts. We ſhall therefore in the following eſſay endeavour to point out the times and reaſons for their uſe; in which, as we before obſerved from Celſus, the principal part of medicine conſiſts. And notwithſtanding the words gangrene and ſphacelus have by

It has powerful effects in this diſorder.

But ſometimes of uſe, ſometimes injurious.

able writers been uſed as ſynonymous terms, and it may ſometimes be difficult to draw the line of diſtinction; yet, as dividing diſeaſes into ſtages, has always been uſeful in practice, and becauſe gangrene and ſphacelus often require very oppoſite treatment, we ſhall divide them into gangrene, ſphaceloide gangrene, and ſphacelus, and theſe again into local and ſpreading. We have found theſe diſtinctions ſufficient for every medical purpoſe, without being liable to thoſe miſtakes in practice, which formerly muſt have ariſen from the diviſion taken from their cauſes, external and internal; as the latter is frequently joined to the former, and a local gangrene, &c. as frequently ariſes from an internal cauſe.

The reaſons for dividing gangrene and ſphacelus.

CHAP.

CHAP. VII.

ON LOCAL GANGRENE.

FROM what has been ſaid, it appears that abſceſs and gangrene, differ only in degree of violence. In the one the cellular membrane and ſkin are diſſolved by a mild ſuppuration, in the other by putrefaction; but it is impoſſible to give a better definition of this diſeaſe, than Galen had already given. "*It is* "*a mortification not actually formed but* "*approaching, being the intermediate* "*ſtate betwixt the height of inflammation* "*and ſphacelus.*" For inſtance, the fine blue inflamed colour ſometimes obſervable in the carbuncle or the bliſters which happen in great ſwellings from accidents, &c. with a lively tenſe ſkin, are not gangrenes but the height of inflammation. Whereas,

The difference of abſceſs and gangrene.

Definition of gangrene.

as, when ſmall bliſters are accompanied with an inactive or kind of dead ſtate in the fibres, a gangrene is taking place. But we are not to conclude from their inſenſibility or offenſive ſmell, that they are thoroughly mortified; for from the load of ſerum, or lymph, the cellular membrane is ſometimes enlarged to a moſt enormous ſize (even where, as in the hands and feet it poſſeſſes but little fat), the limb has the appearance of being dead, and yet when the diſeaſed membranes, &c. come away, the tendons and muſcles underneath are left unhurt: and we have the pleaſure of ſeeing it perfectly reſtored, when perhaps it was thought to be incurable.

A caution

Two kinds of gangrene

Writers have ſpoken but of one kind of gangrene; there are two kinds however to be met with in practice, which require very different treatment from each other: the inflammatory gangrene of Hippocrates,

Hippocrates, and the gangrene arising from, or accompanied with, an *Emphiremα*. The former we have observed may be occasioned by a stagnation in the juices, and this may arise from injuries or preternatural irritability, accompanied with an acrid state of the fluids, or any other irritating cause.

Inflammatory Gangrene described.

The swoln parts lose their inflammatory redness, become either livid or pale, an inactivity of the fibres gradually takes place, a load of yellow serum or lymph stagnates in the cellular membrane, blisters from a separation of the cuticle arise, and greenness with putrefaction ensue; but without being preceded by, or accompanied with, any other symptoms than such as are usual to common inflammation*, &c. If it arises from the height of local inflammation, it must at first of course be

When local.

* See an instance of this kind in Wiseman, book vi. chap. 2.

local;

local; it may be local too when it ariſes from a metaſtaſis † of acrid lymph, in the ſame manner as a critical abſceſs become local; for they only differ in a degree of violence. But a gangrene from a criſis, requires ſomewhat different treatment to that brought on by accident, ſuch as bruiſes, irritating ſubſtances, &c. in very irritable habits.

How treated.

This is the gangrene in which Celſus bled when the patient's ſtrength would permit; and when it happens in injuries while the inflammation is great, with a ſtrong pulſe, his practice may often be imitated with advantage, by leſſening the impulſe of the blood; but in that ariſing from a metaſtaſis the lancet ſhould be uſed with more caution. I have never ventured to direct bleeding in this inſtance, well knowing the pulſe will ſink, and debility in a greater or leſs degree

† See Metaſtaſis, p. 24. ob 1, 2, 3, 7.

come

come on, when acute ſenſation and tenſion are abated, by deadneſs taking place; and that nervous energy, which loſs of blood, and conſequent abſorption of matter tend to deſtroy, ſhould be preſerved as much as poſſible.

Fomentations when to be uſed.

It is alſo the gangrene in which emollient fomentations applied warm without ſpirits, or the flannels being wrung out, are proper; becauſe they ſoften and promotes a circulation in the ſmall veſſels. But when ſwelling, tenſion, and inflammation, threaten a gangrene; the firſt ſtep if poſſible is to abate heat, by innate coolers, and to remove the irritating cauſe, or leſſen the irritability of the part, or both, by the methods before recommended when an abſceſs poſſeſſes too much heat. I have ſeen remarkable good effects, from thirty drops of laudanum, repeated every ten or twelve hours,

Laudanum.

hours, in abating inflammation in this inſtance. But if theſe methods aſſiſted with fomentations do not ſucceed, and veſications accompanied with a deadneſs of the ſkin make their appearance; the parts, as Galen long ſince adviſed, muſt be unloaded by bold and free inciſions made into the cellular membrane. This is the ſtate in which Mr. Freke †, a well known practical ſurgeon, ſays "Scarifying the ſkin in a gangrene is an "idle practice, unleſs the ſurgeon, if he "has ſagacity enough, when the mem-"brane is not deſtroyed but only ready "to ſuffer, then cuts largely through "both and thereby lets out the inflam-"ed juices which diſtend it and thus "takes off the tenſion. By ſuch an act, "he ſhews both judgment and reſolu-"tion. Such good treatment continued "may cure the patient." Nor can there,

Inciſions when to be made.

† Art of Heal. p. 214.

under

under theſe circumſtances, be any doubt about the propriety of this practice, becauſe it ſtrikes at the very root of the malady. Afterwards mild digeſtives ſhould be applied; nor muſt emolient fomentations or pultices be changed for healing cataplaſms, &c. till putrefaction appears. For whatever heats while the inflammation exiſts, increaſes the diſeaſe; and when neceſſary, it is better to make the alteration gradually as the diſeaſe gains ground, by applying antiſeptic pultices, rather of the antiphlogiſtic kind, ſuch as Galen recommends, compoſed of oatmeal, vinegar, and oil. If an inactvity in the fibres prevails beyond the parts that were inflamed, a mild application that affords a general warmth will be uſeful; but, on the contrary, ſhould inflammation in theſe parts remain, a neutralized ſoft plaſter is preferable.

Other dreſſings.

At

Internal medicine in this ſpecies of gangrene.

At the time theſe applications are firſt employed, before ſigns of approaching putrefaction appear, I have found purging with ſalts, &c. uſeful. The bowels are all along to be kept open, ſaline medicines given, and when the diſeaſe ariſes from a metaſtaſis of matter, I prefer Mindererus's ſpirit on account of its promoting ſweat. The diet ſhould always correſpond with the medical intention; and by theſe means we frequently prevent a gangrene degenerating into a ſphacelus, the cellular membrane ſeparating commonly in rags, and the whole afterwards going on in its regular courſe.

Bark when proper.

Now though the bark is improper while the inflammation exiſts; yet when the tenſion is abated, the pulſe ſinks, ſigns of debility begin to ſhew themſelves, and a free diſcharge and ſeparation commences, it ſeems to be ſerviceable in preſerving ſtrength, and in promoting the

the remainder of the buſineſs. The principal ſigns of a gangrene being local are, the muſcles, &c. appearing ſound under the cellular membrane, and the feveriſh ſymptoms diſappearing with an amendment of the patient's health ſoon after the inflammation ſubſides. If this be true, how improper are the rules laid down by thoſe, who not making a diſtinction betwixt gangrene and ſphacelus, adviſe us to raiſe inflammation to ſtop a gangrene. A ſeparation never takes place till the inflammation is ſubdued ‡; for the livor extends into the inflamed parts, and the inflamed parts into thoſe which are ſound. Nor is the red circle which encompaſſes mortified parts any augument in their favour; for though it is a pretty certain criterion of the diſeaſe being ſtopped, yet being perfectly confined, and deſtitute both of heat and

‡ See Celſus.

pain, it cannot be called an inflammation, but a ſymptom of life returning into the affected part.

Gangrene from an incomplete criſis.

However, though acrid matter in a diſeaſed habit of body, by ſtagnating in the cellular membrane, brings on a critical gangrene; yet there is ſometimes an incomplete criſis only, a morbid diſpoſition of the circulating juices ſtill remaining, and inſtead of relief, the body is more violently affected by abſorption, by nervous irritation, and by a ſedative power in the fluids acting upon the nerves.

A man of fifty years of age, of a groſs habit of body, from an inactive and irregular life, after being frequently afflicted with the rheumatiſm, had an ulcer upon his leg for the ſpace of two or three years; in all which time he enjoyed a better ſtate of health than uſual: but the ulcer being healed, his rheumatiſm got worſe, and at the end of ſomething more than

than a year he was ſeized with a feveriſh indiſpoſition, which occaſioned his having but very little ſleep; and in this ſtate he continued more than a week, when his fever increaſed and confined him to his bed without reſt.

Theſe ſymptoms increaſing for four or five days, an inflammation about the ſize of a crown-piece appeared near the ancle in the leg which had been diſeaſed. Upon this a white bread pultice was applied; and as he was now weak and low, anodyne cordials were given; but the family finding the inflammation increaſe, and he viſibly worſe, on the twenty-eighth of November, near three weeks from his firſt ſeizure, and about three days from the beginning of the inflammation, I was deſired to ſee him.

I found the poor man extremely weak indeed, and delirious. His pulſe very weak, fluttering, and low; his looks quite

wild; he was very hot; his tongue dry; faultered in his ſpeech; he had a violent tremor all over him, with a twitching of the tendons and picking of the bed-cloaths, and his fæces came away involuntarily. Upon removing the pultice, I found all round his ancle and the top of his foot invaded by a gangrene that was advancing near to the calf of his leg: upon which I gave him two ſcruples of bark every two hours, in ſtrong and ſmall cinnamon-water, mixed; large openings were made through the *membrana adipoſa*, which was quite ſphacelated, and the muſcles underneath appeared in the ſame ſtate: but upon making an inciſion a little way into them, ſome poor thin blood was diſcharged. Fomentations, digeſtives, and the *Theriaca Londinenſis* (in uſe in thoſe days) were applied; and from this time he began to amend: all the bad ſymptoms gradually left him; and

and on the third day a red circle, the forerunner of victory, encompaſſed the gangrened part, which now began to be flabby.

Next day I was informed he had paſſed a good night; he was become ſenſible; his urine let fall a ſediment; his pulſe was both fuller and ſtronger; his tongue moiſter; a ſeparation of the gangrened parts began to take place, and digeſtion appeared; and theſe ſymptoms improving, on the fifth day the bark began to be given every four or five hours only for ten days longer; in which time two abſceſſes were opened in the calf of his leg which diſcharged a pint and a half of matter; and from this time we had no difficulty in the cure.

Since this caſe happened, I have met with many inſtances of the ſame ſort; but I do not remember any one among them where mortification and death were

ſo near at hand without one or both happening. I apprehend it ſhews the utmoſt extent of a gangrene without changing its name, at the ſame time that it illuſtrates the doctrine juſt advanced: and as a ſphacelus is very often an original diſeaſe, unpreceded by a gangrene, we will copy a well known inſtance of a ſphaceloide gangrene which ſeems to have differed only from this juſt mentioned in degree of violence. For though it was called a ſphacelus, the abſceſs which happened is evidence of the cellular membrane not being dead, and conſequently the affection partook of both diſeaſes.

Sphaceloide gangrene, what.

" A man, near fifty years of age, had " a mortification without any manifeſt " external cauſe, ſeated in the middle " of the back of the foot, or inſtep " near the toes. After eight days trial " with deep ſcarifications, warm fomentation,

" mentations, cataplaſms, and cautery,
" &c. and cordials internally, to no pur-
" poſe; the ſphacelus ſpread through
" the whole foot, and had begun to af-
" fect the *tendo Achillis*, at which time
" the phyſician and ſurgeons expected the
" death of the patient to be unavoidable.
" They entertained no hopes from am-
" putating the part, becauſe there was a
" violent fever attending; his tongue was
" rough and dry, his looks wild, with thirſt,
" reſtleſſneſs, &c. and he complained
" of a pain and hardneſs in the ſide of
" his belly: ſo that it was unanimouſly
" agreed in this deſperate caſe to try the
" Jeſuits bark. Half a drachm of it was
" given every four hours to the patient,
" and the next morning every thing ap-
" peared to be altered for the better, even
" though the firſt doſe was given but the
" evening before; for the fever and other
" ſymptoms were mitigated, and the pa-

" tient reſted quietly in the night, nor had
" the mortification made any advance.

" The next day a kind of moiſture was
" diſcharged from the affected part; and
" on the third day after giving the bark,
" there appeared two large abſceſſes at
" the ancles, from whence it was evident,
" that there was no longer any danger of
" the mortification aſcending higher.
" The bark was now given every ſix
" hours in the ſame doſe, upon which a
" ſlight fever returned, nor was the ap-
" pearance of the matter ſo laudable;
" therefore it was again exhibited every
" four hours as at firſt, and thus conti-
" nued for the ſpace of twenty-eight days.
" After that, half a drachm of the bark
" was given every ſixth hour again, for five
" or ſix days longer; and during the
" whole time of the cure, the patient
" took ten ounces of the bark.

" All the muſcles and tendons of the foot,

" foot, which were already putrefied by " a perfect mortification, before the bark " was given, were gradually ſeparated or " caſt off; but the bones of the toes, " *metatarſus*, and *tarſus*, were laid bare " and cut off by degrees as they became " corrupted.

" The whole cure was completed in " about ſeven months, ſo that the pa- " tient could walk with a wooden leg; " and afterwards acquired a good ſtate of " health *;" and as theſe effects are common to the bark in ſimilar inſtances, I think they proved what Sir John Pringle † aſſerts, " That in gangrenes, where the " veſſels are relaxed, the blood diſſolved " or diſpoſed to putrefaction, either from " a bad habit, or the abſorption of pu- " trid matter, the bark is a ſpecific."

Bark, when a ſpecific.

* See Philoſ. Tranſ. No. 426. or Van Swiet. Com. on Boer. Aph. v. iv. p. 104.

† Ob. p. 336.

In

Some of its effects.

In theſe, and other inſtances we might mention, the bark ſeems to have ſupported nervous energy, to have corrected an ill ſtate of the juices, and to have enabled nature to expel the *materia morbi* from the blood; becauſe the delirium diſappeared, the pulſe was raiſed, a red circle encompaſſed the gangrened parts, the diſeaſe was ſtopped, and abſceſſes near to the putrid parts followed its being taken. Theſe abſceſſes have always been eſteemed indications of ſafety; and it is reaſonable to conclude upon a complete criſis being thus obtained, the patient will recover if he has ſtrength enough to ſupport the diſcharge.

Emphyſematous gangrene.

The other kind of this diſorder is alſo ſometimes local, and is accompanied with a gangrenous *emphyſema*, which is the characteriſtic of the diſeaſe, and diſcovers the tragedy that is acting under the ſkin before it is apparently affected; the

the flesh being perfectly sensible to every impression, and discharging blood freely upon incisions being made. It is hard to discover the state of the fluids which produce this affection, though the cellular membrane is destroyed and becomes putrid almost at the onset of the disease: probably they are highly active and possess great acrimony; and perhaps some kind of fermentation may arise upon their being extravasated. All we know with certainty is, that immediately upon their stagnating, air-bubbles are formed, and a flatulent swelling and putrefaction are the consequences. It must however be observed, that this differs very much from the *emphysema* attending fractured ribs, &c. in which the fluids are generally free from acrimony; and we have therefore joined the epithet gangrenous to distinguish one from the other.

No

Scrotum a common ſeat of this diſeaſe.

No part of the body is more ſubject to this diſorder than the *ſcrotum*; ſometimes in conſequence of urine having made its way into the cellular membrane, through openings conſequent of ſtrictures in the urethra; and ſometimes in conſequence of inflammation brought on by a metaſtaſis of matter, &c. It is eaſy to conceive how a diſeaſe of this kind may happen from urine lodging in the cells and becoming very active by heat and ſtagnation; or when it happens from a metaſtaſis, I think with Hildanus * "it "may be owing to the moiſture and "laxity of the part, and being near to "ſeveral emunctories" that ſecret excrementitious fluids, which, by a tardy paſſage, acquire acrimony. The *ſcrotum* is one of thoſe parts of the body which ſooneſt putrify when deprived of life;

* Cent. 5. ob. 77. p. 468.

a gangrenous

a gangrenous emphyſema ſoon ſhewing itſelf there in dead bodies: and whether the reaſons juſt aſſigned for its happening be true or falſe, I think we may hence conclude, that there is a local cauſe in the *ſcrotum* for the gangrene of which we are ſpeaking.

The parts it affects when local.

This kind of gangrene, when local, is confined to the cellular membrane immediately under the ſkin; nor do the parts underneath looſe their natural colour, or are they diſtended with wind for ſome time; and the blood in them alſo retains its uſual colour and fluidity during the progreſs of the diſeaſe. But of all others, that which ariſes from urine eſcaping into the cellular membrane of the ſcrotum, in a good habit of body, is moſt certainly in this predicament, and claims our firſt notice on account of its ſimplicity: as it teaches, if we can remove the irritating cauſe together with the gangrenous air,

air, we put an end to the progreſs of the complaint; becauſe when the urine and wind are diſcharged by a large inciſion, we readily cure the ulcer by mild antiſeptic cataplaſms, digeſtives, &c.

There is no material difference between this and the emphyſematous gangrene ariſing from a complete *metaſtaſis* of matter in the *ſcrotum*; for as ſoon as it begins to reſemble a blown bladder, the buſineſs is to make a large inciſion to let out the confined air. For by waiting for ſuppuration, which can ſeldom or never happen, we ſuffer the putrefaction to increaſe and give the gangrenous ichor an opportunity of ſpreading along the cellular membrane. Whereas when the air is ſet at liberty and digeſtive balſams, &c. applied, we ſtop the progreſs of the diſeaſe*. However, when the *metaſta-*

* Does not the ſucceſs of this practice confirm our opinion about the effects of letting out confined air in abſceſſes?

ſis is complete, more muſt be done to recover the patient; and after taking ſome notice of the attendant ſymptoms, we ſhall be more particular about the external and internal treatment that may be neceſſary.

When this kind of gangrene is perfectly local, it ſeldom, if properly treated, occaſions any other kind of fever than ſuch as is common to local inflammation; but when the criſis is incomplete, like the partial criſis we have already ſpoken of in the inflammatory gangrene, the fever increaſes with delirium, tremor, a quick, weak, fluttering pulſe, a wildneſs in the looks, and other deſperate ſymptoms that will be deſcribed in the caſes we ſhall re- Symptoms.

abſceſſes? For the only difference is, that gangrenous air produces more violent effects than atmoſpheric air, which enters *ab extra*, and becomes more active from being confined in the cavity of a common gathering.

late:

late: wherefore no time is to be loſt in the purſuit of active meaſures to ſtop the diſeaſe.

How to be treated.

For this purpoſe inciſions are to be made into the *ſcrotum*, not only to diſcharge gangrenous air, but that antiſeptic dreſſings may be applied ſuited to the ſtate of inflammation. If conſiderable, they ſhould be incapable of increaſing it, and therefore ſpirit of ſea-ſalt in water, which is a cooling antiſeptic and ſeems to have a property of correcting the acrimony by which air-bubbles are raiſed, ſhould be applied; nor can we in this place omit making a ſhort abſtract of the notable inſtance in the Baron Van Swieten's Commentaries, which extended this practice.

"A man, forty years of age, of a ro-
"buſt and healthy conſtitution, after
"a ſlight ſtrangury, and taking terebin-
"thinated balſam of ſulphur, felt a pain in

" in the perinæum, and a ſurprizing tre-
" mor both in the *ſcrotum* and *penis*.
" An emollient fomentation was applied
" outwardly; he was let blood and took
" ſome cooling purges, &c. but with-
" out any great advantage, for he could
" only make a few drops of very fœtid
" water with great difficulty. On the
" ſeventh day the *ſcrotum* was ſwelled to
" a monſtrous ſize, as alſo one ſide of
" the ſpongious ſubſtance of the *penis*.
" The next day the *ſcrotum* being gangre-
" ned, burſt and diſcharged a bloody ſanies;
" and one ſide of the *penis* ſeemed to be
" affected with the ſame diſorder. Up-
" on this, antiſeptic fomentations and ca-
" taplaſms were applied. Scarifications
" were made; and as the putrefaction was
" terrible, ſpirit of ſea-ſalt, diluted with
" ſix times the quantity of water, was
" applied to the gangrened parts, which
" prevented the miſchief from ſpreading

" farther. Afterwards more deep ſcari-
" fications were made, and the parts being
" covered with linen cloth dipped in the
" ſame mixture, &c. the gangrene was
" perfectly ſubdued, and a ſeparation of
" the dead parts which extended to the
" groin, followed."

Indeed, if we may form any judgment about the effects of this remedy from the ſtopping of the gangrene after the grangrenous air is diſcharged, it has the appearance of doing good ſervice: but when the gangrene is ſtopped, the putrid ſloughs will come away more readily under the uſe of a mild digeſtive balſam, with as much decoction of myrrh beat into it as it will conveniently take. For whether theſe dreſſings mix with the matter in the ſore or not, if they are of a proper conſiſtence, they drain upon and unite with the ſolid parts, and defend them from the effects of acrimony. The external

ternal parts may be covered with the cataplaſm compoſed of oil, vinegar, and oatmeal, made by boiling the oil and vinegar together, and then ſtirring in as much oatmeal as will give it a proper conſiſtence; which is a good antiſeptic, and by promoting perſpiration commonly produces the effects we deſire.

But where the inflammation is overcome by a mortification taking place, ſpirituous antiſeptics joined with the balſams, or uſed as lotions, are more powerful aſſiſtants. To the inflamed parts ſurrounding the gangrene, a cooling defenſative may be applied; but to thoſe which are become putrid, the ſtale beer pultice, with the addition of powdered chamomile flowers, wormwood, or other warm antiſeptics, according to the degree of putrefaction, is preferable. But I do not approve of the practice, in this inſtance, of fomenting with hot ſtupes, however me-

Hot fomentation, their effects.

dicated, before the air is ſet at liberty; nor even then, otherwiſe than the application of flannels wet in an antiſeptic decoction made warm, to waſh off offenſive matter. Becauſe we have undeniable evidence that they accelerate the abſorption of putrid matter, and alſo diſperſe it into the neighbouring parts, and probably rarify and render more active the gangrenous air. We ſhall hereafter ſhew, by plain facts, that hot fomentations increaſe putrefaction in putrid ulcers. And ſhould we employ an hazardous remedy where increaſing the circulation is not the point in view? I have never uſed them for ſeveral years in a gangrene attended with an *emphyſema*, except by way of lotion; and as far as I can judge, I have ſucceeded more expeditiouſly and ſafely without their aſſiſtance.

Regarding the internal treatment, it

muſt

Internal treatment

must be obſerved, that the ſtate of inflammation, and the ſymptoms attending it, ſhould not induce us to uſe the lancet after the *emphyſema* begins to appear: for though it may abate heat, yet the circulation in this appendage being naturally weak and ſlow, by abating the action of the heart and rendering it incapable of forcing the blood through the ſmall veſſels, it aggravates the complaint. Mr. Douglas* has given us a caſe where ſix ounces of blood only, taken from a man of a full habit of body with a quick full hard pulſe, brought on a mortification the ſize of a crown piece in an inflammation of the *ſcrotum*, after the operation of the hydrocele, where no emphyſema appeared. The pulſe ſunk amazingly after the bleeding; the ſwelling of the affected part increaſed; and he ventures to affirm that if the patient had

* On Hydrocele 149.

loſt twelve or ſixteen ounces of blood, the whole *ſcrotum* would in all probability have mortified, and the event have proved fatal. Nor is this the only caſe he relates where bleeding ſeems to have had a ſimilar effect *.

" On Thurſday, a gentleman between " thirty and forty years of age had, it was " thought, a ſwelling of his teſticles from " a gonorrhœa being ſuppreſſed; and " going as uſual into company, and in- " dulging himſelf, the ſwelling was " much increaſed and attended with " weight and great pain. They ſeemed " to be not only much enlarged but alſo " inflamed; the ſubſtance of the *ſcrotum* " had acquired a uniform globular ap- " pearance and was equal in ſize to a " large ſheep's bladder blown. The pain " was not ſolely confined to the ſcrotum " but ſeemed to follow the direction of

* Caſe 8th. p. 210.

" the

" the ſpermatic chord, and gave him a
" good deal of uneaſineſs in his loins. His
" pulſe was quick, but neither full nor
" hard; his thirſt was conſiderable and
" attended with univerſal heat.

" It was recommended to him to loſe
" twelve ounces of blood immediately, to
" take a cooling purge, to lie in bed, and
" to make uſe of the *fotus communis*,
" morning and evening, covering the
" ſcrotum afterwards with a cataplaſm
" of bread, milk, and oil; to keep the
" parts ſuſpended with a bag-truſs, and
" to drink plentifully of barley water,
" and ſuch ſmall diluting liquors, as alſo
" to be ſparing in his diet, and to con-
" fine himſelf to water gruel, panada or
" ſome ſuch food. On Friday morning
" his feveriſh ſymptoms were much a-
" bated, though he had paſſed the night
" but indifferently, the pain being con-
" ſtant and very great. The tenſion and

" ſwelling

" ſwelling were not leſſened, but, on the
" contrary, increaſed; for the ſpermatic
" chord was obſerved to be more enlarg-
" ed, and much harder. He was or-
" dered to be bleed again immediately; to
" continue diluting plentifully, and to
" take a ſcruple of nitre every four hours
" in a draught of barley water, or ſome
" other ſmall liquor; alſo the *fotus* and
" cataplaſm to be repeated. He com-
" plained to-day likewiſe, of a tickling
" cough, which he ſaid increaſed the
" pain in the ſcrotum very much; for
" this he was directed to take half a
" ſcruple of the ſoap pill, at night.

" On Saturday it was found he had
" paſſed the night much better, but ſtill
" his pain was very conſiderable, with
" the ſwelling and tenſion not at all abat-
" ed. In one part there was an evident
" fluctuation of matter, which pointed
" outwards; all thoughts therefore of
" reſolving

" reſolving the tumor were laid aſide at
" preſent, and maturation was encouraged
" by ſubſtituting the *cataplaſma maturans*
" in the place of the former. The pa-
" tient was directed alſo to take his ſoap
" pills at night.

" On Sunday the fluctuation of matter
" was very manifeſt, though the quantity
" ſeemed to be but ſmall; in order there-
" fore to evacuate the matter, and to ſet
" the parts ſomewhat at liberty, an open-
" ing was made by an expert ſurgeon, and
" a ſmall quantity of very fœtid matter
" was diſcharged. The pain was not in the
" leaſt relieved by this operation; the
" ſwelling was not diminiſhed, nor was
" it any ſofter to the touch; but in a
" few hours all the ſymptoms became
" worſe, and the tenſion was extended
" to the abdominal muſcles.

" On Monday morning the wound

" (ulcer)

" (ulcer) was covered with a ſlough at " the bottom, the edges looked crude, " and the ſmell was extremely offenſive; " the colour of the part was changed " from a florid hue to a deep red; the " pulſe intermitted very frequently, and " here and there upon the abdomen were " ſmall veſiccations. After this, though " deep ſcarifications were made, warm " digeſtives, antiſeptic fomentations, " with *ſpt. vini camphor*: and the *cata-* " *plaſma e cymeno* applied; he died in " the evening.

" Upon opening the ſcrotum, matter " was found diffuſed through its cellular " ſubſtance, as well as through the tegu- " ments of the abdomen, in ſmall quan- " tity, little more than was ſufficient to " ſtain the knife, of a moſt offenſive " ſmell. Each teſticle in its *tunica va-* " *ginalis*, appeared to be very conſider- " ably enlarged, as alſo the ſpermatic " chord

" chord; but upon cutting through the " *tunica vaginalis*, the teſticle and *epididi-* " *mus* were found in a perfect ſound ſtate, " not the leaſt enlarged in their ſize, nor " diſcoloured, or at all diſeaſed: the " whole bulk of the part was made up of " the ſubſtance of the *ſcrotum*, and the " *tunica vaginalis*, which was two-thirds " of an inch thick, and extended to the " ſpermatic chord as far as the rings of " the abdominal muſcles. There was " no matter between the *tunica albuginea* " and *tunica vaginalis*, nor in ſhort any " where elſe, excepting the quantity " mentioned above, diffuſed through the " cellular membrane: and though it is a " generally received opinion, that a *hernia* " *humoralis* is a diſeaſe of the teſticle it- " ſelf, yet in this inſtance the *tunica va-* " *ginalis* and not the body of the teſticle " was the ſeat of the complaint." And do not we find it always ſo in the ſe-

paration

paration of the parts by the diſeaſe of which we are ſpeaking?

We ſhould be cautious therefore in ſuffering the ſtrength of the patient to be leſſened, either by diet or medicines, after the *emphyſema* has begun to appear; nor ſhould any applications be uſed that may promote the abſorption of matter. The fever ariſing from local inflammation will be removed by topical remedies, and immediately making a large inciſion into the inflamed parts. Keeping the bowels open, and giving ſaline draughts, with ſmall doſes of opium where increaſed irritability requires it, will be ſufficient, while the fever makes them neceſſary; drinking ſpirit of nitre-punch, &c. for common drink. But as ſoon as the pulſe begins to ſink from the inflammation being abated, the bark ſhould be given either joined with theſe remedies, with ſpirit of ſalt, ſweet ſpirit of vitriol,

by

by itſelf, or with wine, as the degree of heat, putrefaction, and ſtrength may require.

By this treatment I have repeatedly ſeen a happy iſſue of the diſeaſe in queſtion; and though it not unfrequently happens that the teſticles are left quite bare for a time, yet they are again covered with a new ſkin from the neighbouring parts; even in thoſe deſperate caſes where from the great loſs of ſubſtance one would at firſt imagine it could not poſſibly happen: with which every man converſant in buſineſs muſt be well acquainted. But we will illuſtrate what we have been ſaying by ſome caſes.

A man, aged fifty-ſix, of a very groſs habit of body from hard drinking and an inactive life, on February 24th, 1752, complained of a violent pain in his head; his tongue was dry, and his body hot and coſtive, with a quick and weak pulſe; wherefore

wherefore I gave him a gentle purge which procured two ſtools, and afterwards a ſaline julep with barley water; yet his fever rather increaſed, and appearing to be of the ſlow nervous kind, ſome *pulvis contryervæ compoſitus* was added to theſe remedies.

On the 28th I found the *ſcrotum* prodigiouſly ſwelled without any very great degree of inflammation. I obſerved a particular wildneſs in his looks, which made me apprehenſive of a gangrene; and notwithſtanding the part was fomented and covered with the *Theriaca Londinenſis*, the *ſcrotum* next day was enlarged to the ſize of a child's head, about three years of age, and the penis in proportion. Upon deep inciſions being made, an amazing quantity of wind was diſcharged. All the integuments down to the *tunica albuginea* were entirely mortified; the teſticles and their veſſels only

only remaining free from putrefaction. He had now a weak fluttering pulſe, a univerſal reſtleſſneſs, his *fæces* came away involuntarily, and he was delirious. He was dreſſed with digeſtive balſam added to the other applications, and this day at eight in the morning he began to take two ſcruples of bark every three hours.

Next morning (29th) at ten o'clock, the mortification had made but little progreſs, though the reſt of the ſymptoms, except the wild looks, continued much the ſame; but the day following a red circle encompaſſed the mortified parts, he had got ſome reſt, to which he was a ſtranger, and his pulſe was conſiderably raiſed. The dead began to ſeparate from the living parts in a ſhort time, accompanied with digeſtion. He became quite ſenſible, an abſceſs appeared near the rings of the abdominal muſcles, which was opened and diſcharged good matter

matter; and afterwards another abſceſs formed *in perinæo* and round the rectum, containing more than a pint of pus; but it being let out we met with no other interruption to the cure; and ſo much ſkin was preſerved, as covered the teſticles. He took about ſeven ounces of bark in the whole, which I apprehend aſſiſted the ſuppuration; and he enjoyed a good ſtate of health many years during the remainder of his life.

A gentleman, about fifty years of age, who had ſuffered from a ſtricture in the urethra ſome years before, though no ways intemperate, had after two or three days illneſs a metaſtaſisof matter into the *ſcrotum*; a gangrenous *emphyſema* followed; and the ſymptoms of a gangrene beginning to appear, my aſſiſtance was deſired. I found him in a fever, with a quick weak pulſe; his bowels had been opened, and I immediately ordered a free

inciſion

inciſion to be made into the affected part: a large quantity of air was diſcharged, and we found all the membranes in the inſide of the *ſcrotum* putrefied Antiſeptic digeſtives were applied, and the whole *ſcrotum* was covered with a cataplaſm of oatmeal, vinegar and oil. Cooling antiſeptic draughts with laudanum, were ordered this evening, and next morning finding the heat abated, he began the bark; and by continuing the ſame dreſſings twice a day, recovered: a great part of the *ſcrotum* ſloughed away; the teſticles were left bare, but their covering was reſtored, with a new ſkin. Since this I have ſeen ſeveral ſimilar inſtances*, but it would be uſeleſs to deſcribe them, becauſe they all (except one in a worn out conſtitution) terminated under the ſame kind of treatment in the ſame manner. This ac-

* See Hildan. cent. 5. ob. 76 & 77. and Van Sweit. ſect. 432.

count materially differs from that given by Hildanus *, who owns that of an almoſt infinite number of perſons whom he had ſeen with a gangrene of the *ſcrotum*, he never knew one recover; ſo that he ſtood amazed at a cure of this kind communicated by Holzemius, as a prodigy in the art, declaring that neither himſelf nor any other phyſician in his days ſaw or heard of the like. I can no way aſſign a reaſon for ſuch a declaration, unleſs we ſuppoſe it owing to a treatment different from that uſed by the moderns; and it is worthy of remark, that in caſes referred to by theſe writers, fomentations ſeem to have been omitted and the affected parts ſpontaneouſly ſeparated under antiſeptic cataplaſms alone.

Not always confined to the ſcrotum.

This kind of local gangrene is not wholly confined to the *ſcrotum*; for we meet with it, though very rarely, in the

* Ib. See alſo Vander Wiel. cent. prim. ob. 85.

extremities

extremities after accidents: the ſtagnating fluids, whether blood or lymph, generating air which ſpreads itſelf ſlowly, and in no great quantity, to ſome diſtance through the cellular membrane. I formerly gave an inſtance of this kind, where I thought the patient was cured by bark and nitre, after inciſions were made and digeſtives applied; but I have ſince learned, that inciſions and topical applications alone ſtopped the progreſs of this diſeaſe, and I only give the bark afterwards to finiſh the cure.

At that time, I thought theſe to be ſpreading gangrenes; but I am perſuaded, where the *emphyſema* does not affect the muſcles in the manner we ſhall deſcribe, that they are local; becauſe they are almoſt certainly cured, if the habit be any thing tolerable. In the limbs I apply an anodyne defenſative above the inflamed parts, which commonly brings on per-

ſpiration; but in other reſpects I treat them like a local gangrene of the *ſcrotum*. The wild look which ſometimes happens in this inſtance, is not any argument in favour of their not being local; for it may be obſerved that it is ſometimes preſent in local gangrenes, and abſent in thoſe which are ſpreading; and *vice verſa*, owing probably to the ſtate of the nerves. I therefore look upon this to be a curious inſtance of nervous affection in particular habits; for the approach of death, in the diſeaſed part, ſeems to communicate horror to the whole body, becauſe it diſappears as ſoon as the local complaint is relieved. In theſe inſtances, I have long preferred common ſaline draughts, ſpirit of nitre, ſweet ſpirit of vitriol, and ſpirit of ſalt, to nitre; becauſe it is apt to diſagree with the ſtomach: and though they may not cool equal to nitre, yet they are more powerful

A curious inſtance of nervous affection.

powerful antiſeptics, and ſufficient coolers, till the inflammation and fever permit a junction with the bark.

Gangrene from froſt.

It is ſaid, gangrenes in armies and northern countries often ariſe from the penetration of froſty particles; and to prevent its degenerating into a *ſphacelus*, we are directed to apply ſnow or cold water; and, if authority is to be depended upon, they will commonly be ſufficient for the purpoſe. Whereas we are told, the immediate application of heat quickens the progreſs of putrefaction, and ought to be avoided. This ſubject is diſcuſſed in the 454th and following ſections of the Baron Van Swieten's Commentary, to which I refer; not having ſufficient experience myſelf to determine whether this method of treatment will prevent a mortification from froſt, &c. taking place. In the gangrenes I have met with of this ſort, the hand, for inſtance, is exceſ-

ſively cold, and violently ſwelled; and the ſkin and cellular membrane, are loaded with ſerum, or lymph: but it commonly gives way to a mild ſtale beer, or vinegar pultice; though ſometimes ſcarifications are neceſſary to unload the part. Hence we may learn what is meant by a local gangrene, and how it ought to be treated. Saying more upon the ſubject would be ſuperfluous.

CHAP.

CHAP. VIII.

ON SPREADING GANGRENES.

THE gangrene which ariſes ſimply from inflammation, and a conſequent ſtagnation of the juices, whether from an injury or a metaſtaſis of matter, ſometimes degenerates into a *ſphacelus*, and affecting the whole body deſtroys the patient; but as it ceaſes to be a gangrene before it makes this progreſs, it muſt be treated of in another chapter.

The ſpreading gangrene, of which we now mean to ſpeak, is that accompanied with a gangrenous *emphyſema*; and ſeems to ariſe principally from a gangrenous diſpoſition in the juices, or, as Wiſeman expreſſes it, from the degeneration of humours in unſound bodies. Becauſe inflammation accompanied with a mildneſs in Cauſe.

in the fluids almoſt under any ſtate of irritability, either diſperſes or occaſions ſuppuration. I think I have ſeen it oftener in accidents than in inflammation from other cauſes; but I have alſo ſeen it come on from a putrid diſpoſition in the juices, the remnant of a putrid fever.

When it is the conſequence of injuries, the lymph which ſtagnates about the injured part immediately inflames and corrodes the veſſels which contain it; and then air-bubbles in the *membrana adipoſa*, and other membranes, are inſtantly formed: which air-bubbles, by increaſing the inflammation, are increaſed themſelves, and extended immediately, upon the ſmalleſt degree of obſtruction taking place, all over the limb, and from thence through the whole body. They are not confined to the external cellular membrane immediately under the ſkin, as in a

Seat.

local

local gangrene; but they even pervade it in the moſt minute muſcular fibres, and thus produce a general gangrenous *emphyſema*. A fever during this ſtate frequently comes on, accompained with a delirium, great dejection of ſpirits, and often a particular wildneſs in the looks; the pulſe is either quick, low, weak and fluttering; or quick, unequal, and hard. The degree of preternatural irritability and morbid diſpoſition of the fluids, favour the moſt ſwift progreſs of the diſeaſe; the air-bubbles ſometimes run like wild fire, from cell to cell; and the ſcene is not uncommonly cloſed with a rapidity, that will not admit of aſſiſtance.

And in what they differ from a local gangrene.

Symptoms.

If an inciſion be made into the affected part, when the air-bubbles are firſt formed, it is ſenſible, and blood is diſcharged from the arteries in a florid ſtate, as freely as uſual; the *membrana adipoſa* is of a darkiſh yellow colour, and the muſcles only

only appear browner than common. Afterwards the ſkin becomes inflated, and the muſcles, not yet having loſt their ſhape, frequently force themſelves out, immediately upon making an inciſion, with a large diſcharge of wind, and a quantity of frothy matter. The blood in the veſſels is now turned to a black coagulated maſs, the *membrana adipoſa*, and the membranes in the interſtices of the muſcles and fibres, and the muſcles themſelves, putrefy; and laſtly, the ſkin alſo becomes livid and putrid: from all which it ſeems evident, that a gangrene brings on a ſphacelus, while the blood is yet circulating in the veſſels.

A young gentleman about fourteen years of age, had been ill of a putrid fever at a boarding-ſchool, and as ſoon as he was able to travel he returned to his native air in hope of recovery; but notwithſtanding he had the aſſiſtance of an experienced

experienced phyſician, and the bark was freely given, in leſs than a month an inflammation appeared in one cheek, a gangrenous *emphyſema* followed, and a general ſtate of putrefaction took place in two or three days.

I remember a waggon-wheel running over a man's arm, occaſioned a ſimple fracture; but though proper care was immediately taken of it, in two days time an *emphyſema* ſpread up the arm, and all over the breaſt, ſhoulders, and neck, and he died on the third day. But the moſt rapid diſeaſe of this kind I ever ſaw, was in a hard drinker, who, while he was hot in fleſh, from taking down an enormous quantity of exceeding ſtrong ale, received a wound through the ſkin of his thigh, about four inches long. A moderate degree of inflammation followed; but next day the thigh ſwelled very much from an *emphyſema* poſſeſſing every part

part of it; a moſt corroſſive ichor was diſcharged, and the day following, when he died, the whole body was in a ſtate of putrefaction, the corpſe immediately becoming the moſt offenſive I ever knew: fairly evincing how much a bad habit of body, and an inflamed ſtate of juices, contribute to this unfortunate termination. In ſound habits, the effects of atmoſpheric air from being confined in wounds, are great ſuppuration, abſceſs and hectic; but in a bad habit of body where the lymphatic juices are acrid, or have a morbid diſpoſition, I am perſuaded it often, by increaſing acrimony, brings on the diſeaſe in queſtion, eſpecially when the air is conveyed into the part in a cold ſtream.

The different effects of air being confined in wounds, in good and bad habits of body.

I took a ſcirrhus out of a gentlewoman's breaſt, ſubject to eruptions, and glandular ſwellings, but I never in my life ſaw a greater proſpect of ſucceſs, digeſtion

digeſtion having come on to my wiſhes; and the patient was even ſo well, in one week, as to play ſeveral pools at quadrille. But unfortunately ſitting with the affected ſide, unknown to me (for I never ſaw her out of bed), againſt a window which did not ſhut cloſe, three or four ſucceſſive days; a gangrene invaded all the parts which had been inflamed (and thence more irritable*) in conſequence of the operation. The whole ſide and neck were ſoon inflated, the ſkin felt ſpringy, ruſtled upon being touched, and death prevailed before a *ſphacelus*, which was coming on, had time completely to give its aſſiſtance.

I remember, early in life, to have ſeen the ſame accident in a man's leg, who had been a hard drinker. He had a contuſed wound, not larger than a ſix-pence, upon his ſkin, attended with inflam-

* See Eſſ. on Irrit. in general, p. 208.

mation;

mation; and lying in a poor little cottage upon a ſquab, with his leg againſt a wretched door, a ſpreading gangrene ſoon appeared and finiſhed his life.

A ſtrong luſty working man, aged about thirty-five, on the 10th of December, 1751, fell from a beam. His foot catching upon a joiſt, the leg was fractured betwixt the calf and the ancle, and the *tibia* juſt raiſed through the ſkin; ſo that reduction was accompliſhed, and the leg laid ſtrait with very little trouble. Retentive bandage only was employed. A large quantity of blood* was taken away, and he was directed to drink barley-water plentifully, to make him perſpire.

Next morning, (11th) his foot and leg were warm, there was a particular wildneſs in his looks, though the frac-

* This blood upon ſtanding a while, was of a florid appearance, and looſe texture.

ture

ture had not any bad aſpect. His pulſe was quick, and rather hard, and his tongue white and dry. I ordered him a ſaline julep and added nitre to his barley-water.

The day following, (12th) the wildneſs in his looks was increaſed, with the addition of an univerſal tremor, and a delirium, to the other ſymptoms. His pulſe was much as the day before; but upon taking the dreſſings from his leg, I found a gangrene had invaded the fractured part, and that the foot was nearly cold. Wherefore inciſions through the ſkin were immediately made, dreſſings uſual to gangrenes applied, and he began to take two ſcruples of bark every three hours. I immediately ſent for my old, maſter, Dr. Holbrooke, to adviſe with him what was proper to be done; in whoſe abſence came my colleague, Mr. Fiſher, who then practiſed ſurgery with deſerved

deſerved reputation. We found the gangrene had advanced nearly to the middle of his thigh, with an *emphyſema* reaching within four inches of the body. His pulſe was ſunk from the firſt, yet it was much harder and ſtronger than either of us could expect, among ſo many deſperate ſymptoms; but though we ſaw no hopes of recovery, we ſcarified, dreſſed as before, and continued the bark; that nothing, according to the eſtabliſhed practice at that time, might be left undone, while life remained. Next morning the abdomen being affected, he died; which fatal event probably originated in preternatural irritability, a bad ſtate of the juices, and the admiſſion of external air into the wound. For I had ſeen the ſmalleſt cut, to which he was very liable, as being a carpenter, cured with the utmoſt difficulty.

The following appearances in the affected

fected part, presented themselves to our observation, and fully describe the local progress of this disease. When I first saw the gangrene it did not appear to have advanced more than one inch above the fracture; but upon examining strictly with my fingers, I thought I could perceive a small degree of *emphysema* from thence to the knee. I made several incisions through the skin; the patient was very sensible of pain from them, and some florid blood of a loose texture was discharged. Upon examining farther, I perceived the fluids in the *membrana adiposa* of a darkish yellow colour (which probably occasions the lividness in the skin), and full of very small bubbles. When we took off the dressing next day, this part which appeared so little affected the day before, was now entirely sphacelated to the bone; and upon making an incision through the skin, the muscles of

the leg immediately forced themſelves out with a large diſcharge of wind, and a quantity of frothy matter. They were entire and of a dark brown colour. Upon cutting into them, there appeared the ſame frothy matter in the interſtices of the fibres. The blood in the veſſels was black, and coagulated; and next day the muſcles were of the ſame colour, and putrid.

Above the knee, where the gangrene had not made ſo great progreſs, we found the ſkin, *membrana adipoſa*, and part of the muſcles deſtroyed; ſomewhat higher, only the ſkin and *membrana adipoſa*, which was frothy, and diſcharged wind upon making of the inciſions. Still nearer the body, which from the aſpect of the ſkin ſeemed to be free from gangrene, the juices only in the *membrana adipoſa* appeared yellow, and filled with little bubbles; the blood from

from the veſſels in that membrane was diſcharged as free as uſual, but was now become much thinner than at firſt when the gangrene appeared.

A tall man, about twenty-five years of age, apparently in a moſt healthful ſtate, had his ancle torn to pieces; his bones diſlocated, and the muſcles of his leg twiſted violently, by the cogs of a mill-wheel; but aſſiſtance being called, reduction was ſoon effected, and proper dreſſings applied, with bleeding, and the other neceſſary treatment uſual on ſuch occaſions. Nevertheleſs, unfavourable ſymptoms appeared, and I was deſired to ſee him on the third day. I immediately ſaw a gangrenous *emphyſema* had taken poſſeſſion of the limb, and that it would putrify; but as his head was quite clear, his pulſe nearly regular, and he no ways reſtleſs, I was in hopes I had a local gangrene from an external cauſe to deal with.

I was however miſtaken, for the muſcles forced themſelves out upon an inciſion being made; the next day the *emphyſema* had reached the abdomen, and he died.

A man was ſhot into the middle of the arm, betwixt the elbow and the ſhoulder, with a horſe-piſtol loaded with ſlugs, which tore the brachial artery and the muſcles to pieces. I was called on the third day, and found a mortification accompanied with a violent gangrenous *emphyſema* had taken place, and the man was dying.

Bark of no uſe in the malady.

I have tried bark in this untractable malady. I am convinced it does no good, and I am inclined to think it does harm, by increaſing inflammation. Keeping the bowels open by ſaline purges; and giving the cooling antiſeptics before recommended, with ſmall doſes of opium frequently repeated, ſeem to be indicated. Bleeding is a hazardous remedy, be-

Indications.

cauſe

cauſe nervous energy is ſo very ſoon deſtroyed. Hot fomentations are injurious in the manner deſcribed in ſpeaking of a local gangrene; and though inciſions through the ſkin ſhould be made, that the ſpirit of ſea-ſalt, and other dreſſings may be applied, yet I am fearful it may ſtill be ſaid that this kind of ſpreading gangrene is incurable.

Prophylactic treatment may be more ſucceſsful; and I think this cataſtrophe may ſometimes be prevented by excluding the air: or where this cannot be done, by enlarging the wound ſo that the air which happens to introduce itſelf cannot be confined. For I obſerve emphyſematous gangrenes, except in the *ſcrotum*, ſeldom or never happen, when by accident the wound is made very large. Whereas, where there is already a gangrenous temperament, if the opening is only juſt

Prophylactic treatment

large enough to admit air freely, it insinuates itself, and like a spark of fire applied to a magazine of gun powder, instantly occasions the blowing up of the whole.

CHAP.

CHAP. IX.

ON SPHACELI IN GENERAL.

A SPHACELUS, or as ſome have called it, a *necroſis (mortuus)* is an extinction of life in the affected part, and abſolute putrefaction; from which the patient can only be relieved by a ſeparation or removal of the black putrid maſs. But it is ſometimes original, and ſometimes, as we have juſt obſerved, it is the conſequence of a gangrene; and like a gangrene, it is ſometimes local, and ſometimes the whole habit of body is at the ſame time diſeaſed. An original *ſphacelus*, and that produced by another diſeaſe, often require different treatment; for at the approach of a local *ſphacelus* ariſing from exceſs of inflammation,

Sometimes local, and ſometimes general.

whether brought on in conſequence of great irritability, by a torrent of acrid fluids, by the improper uſe of ſtimulating cataplaſms made with galbanum, &c. or by great vigor of the conſtitution; the method we have before recommended in the gangrene ariſing from a ſtagnation of the juices, appears to be proper. But when the ſwelling ſubſides, and the parts begin to ſeparate, the method hereafter to be recommended in an original *ſphacelus*, ſhould be purſued.

Of this kind was the *ſphacelus* in the woman's wriſt noticed *, whoſe arm was amputated betwixt the living and the dead parts below the elbow. By applying a cerate of diachylon, wax and oil, above and round this joint, pledgets of digeſtive, ſoftened with oil to the confines of the mortification, and over this the ſtale beer pultice, the ſeparation ve-

* The chapter on amputation, in mortified limbs.

ry

ry readily took place: but we were under great difficulty in saving our patient, in consequence of the absorption of matter; which, instead of a putrid, brought on an acute hectic fever, accompanied with the most violent white aphthæ I ever saw, and an incessent hiccough which together harrassed the patient almost to destruction. The surgeon, before I saw her, had ordered the bark; but it would not stay upon her stomach, nor could I make it agree with her in any form. Wherefore spirit of sea-salt, spirit of nitre, juice of lemon, &c. were taken without it, in well boiled gruel or pectoral decoction; and to these emollient antiseptics, laudanum was added, in hope of subduing the hiccough by lessening the sensibility of the gastric nerves. Manna was joined when she was costive, and a diarrhœa, two or three times, made it necessary after giving a dose

Aphthæan hiccough from absorption

a doſe of rhubarb, with a drop of oil of cinnamon, to preſcribe a powder of chamomile flowers and ſtarch. But though the ſeparation of the dead parts, which were rendered as inoffenſive as ſpirit of wine loaded with the antiſeptic gums could make them, went on nearly as well as we could wiſh; yet the aphthæ and its conſequences, even after the dead parts were removed, were long troubleſome; it ſloughed off however in time; and as ſoon as the patient could take broths and nouriſhings food, her recovery was not interrupted.

CHAP.

CHAP. X.

ON A LOCAL SPHACELUS.

IT is an original *ſphacelus* of which we now mean to treat; this is ſlower in its progreſs than a gangrene, ſeldom fatal, and there is reaſon to hope with Hippocrates, that the diſeaſe will ſeparate, ſo that the patient may be ſaved, loſing only ſuch parts of the body as have turned black. Local ſphacelus leſs fatal than gangrene.

It ſhews itſelf by putrefaction coming or without any previous *emphyſema*; and the diſeaſe ſpreads not by the rapid progreſs of air-bubbles, but by an abſolute ſtagnation of the blood and juices, acrid matter corroding the neighbouring parts in the manner of a cauſtic. Symptoms.

Now this diſeaſe is commonly local, in the beginning at leaſt, in a good habit of

of body, when it ariſes from violent injuries; for where the parts are ſo deſtroyed, or the inflammation or ſwelling riſes ſo high, that a circulation can no longer be carried on, putrefaction is a natural conſequence; and the dead parts ſeparate by the dreſſings commonly applied in contuſed wounds. I lately had a man under my care, who from a violent bruiſe upon his thigh and leg, without any wound, had a ſphacelus of this kind. Fomentations and remedies uſual in bruiſes were applied; but a hard ſwelling in the *gaſtrocnemii muſcles* of an enormous ſize enſued, and in a week's time his foot was cold and inſenſible. The toes, and the top of his foot ſoon became black; and upon making inciſions into them, nothing but coagulated blood was diſcharged, owing apparently to the circulation being entirely ſtopped by the ſwelling above. The ſtale beer pultice

and

and digeſtives were applied. In time the foot dropped off at the ancle, and the man recovered. Sometimes indeed it ſpreads through the neighbouring parts which partook of the injury, but this ſeldom requires particular treatment: for when it arrives at thoſe parts in which the circulation is tolerably vigorous, it ſtops under the ſame management; or when obſtinate, it has frequently been ſtopped by preventing the paſſage of the diſeaſed fluids in the ſound parts.

Inflammatory and nervous ſymptoms to be conſidered diſtinctly.

The ſymptomatic fever that attends, is ſuch as is common to local inflammation in contuſed wounds, &c. but where membranes and ligaments, eſpecially about the joints, are much bruiſed and lacerated, a delirium and convulſions during the crude ſtate of the wound may often come on, from nervous diſtention and irritation* in the parts

* See contuſed and lacerated wounds in the membranous parts.

which

which are ſenſible, independent of the mortification. This ſhould put us upon our guard againſt miſtaking inflammatory ſymptoms for thoſe which ariſe from the *ſphacelus*; becauſe in the former, the antiphlogiſtic treatment is neceſſary, while the pulſe is quick, full and ſtrong, and till theſe ſymptoms of inflammation diſappear. Nor ſhould the ſinking of the pulſe, and the fever which remains, deceive us; for when the parts become inſenſible from mortification, the inflammation ceaſes to keep up the ſame degree of inflammatory irritability; and yet a quickened pulſe, and other feveriſh ſymptoms, continue from the inflammation which ſurrounds the mortified parts, till digeſtion comes on, and the veſſels become pervious. Nevertheleſs, when a delirium happens from the cauſe aſſigned, opium is the remedy on which we are to depend for relief.

I formerly

I formerly recited ſome caſes which proved theſe facts; but they are ſo very common, and ſo ſelf-evident, that examples ſeem unneceſſary. I ſhall therefore only make an abſtract from a caſe in the Philoſophical Tranſactions *, to ſhew the propriety of the diſtinctions I have made; and that when a local *ſphacelus* ſpreads, cutting off the communication betwixt the living and the dead part, may effect a cure.

" On the fifth of November 1713, A man had the *radius* and *ulna* of his left arm broken, and their ends burſt through the ſkin. He was immediately dreſſed with common aſtringents and bandage; and in five or ſix days the arm became black and inſenſible from the fingers to the ſhoulder. Deep ſcarifications were made, and warm dreſſings applied, but the next day the arm was taken off

* Philo. Tranſ. No. 370. abridged by Mihles, p. 92.

as

as high as poſſible, and the ſtump cauteriſed ;for it was perfectly mortified as high as the *acromion*.

The day following, the mortification was ſpread towards the lower end of the *ſcapula*. The edges of it were rubbed with an armed probe dipped in ſolution of quickſilver in *aqua fortis*, which completely anſwered the intention, for from that time it ſpread no farther ; yet the mortified parts were ſcarified, cauteriſed, and dreſſed according to art, for ſeventeen or eighteen days longer. The ſloughs then began to ſeparate and caſt off daily ; and after the *ſcapula* and the remaining part of the *os humeri* were come entirely away, the patient was cured."

Quick ſilver in aqua fortis, its uſe in mortification.

The famous inſtance, in Van Swieten * where the *ſphacelus*, after ſpreading up to the axilla and laying the bone bare, was cured by a woman, with an ointment

* Sect. 432.

that

that reſembled Locatelli's balſam, and allowing generous wine; and the ſubſequent caſe of the girl were both of this ſort; and a multiplicity of ſimilar inſtances are to be met with, both in practice and in books.

Mortification from an eryſipelas.

From what has been ſaid about an eryſipelas*, it appears that if diſperſion does not take place, it either terminates in ſuperficial ulcers or mortification; and when the latter happens in critical *eryſipelata*, it is often local. No other ſymptoms (except the *ſphacelus*) than ſuch as happen to local inflammation, attend; and being for the moſt part ſurrounded with conſiderable inflammation, the ſame remedies we have recommended in a ſphaceloide gangrene are proper: it is however well known, that theſe *ſphaceli* will ſeparate of themſelves, eſpecially if the parts round about

* Chap. on Eryſip.

covered with an ointment, compoſed of diachylon and oil, or a white bread pultice, &c. Of this kind was the gentleman's caſe we have mentioned*, in ſpeaking of a phlegmonoide eryſipelas, which ſeparated under a white bread pultice; and as the ſubſequent ſuppuration was very great, the bark was given to preſerve his ſtrength. The phlegmonoide eryſipelas ſpoken of by Hildanus†, which mortified, was undoubtedly of this ſort, being cured by ſcarifications and the common remedies. A woman alſo had a ſphacelus through the ſkin in various parts of the arm, from an eryſipelas of ſeveral days ſtanding; which was cured by ſnipping the bliſters, cutting through the dead parts with a lancet, and applying digeſtives and a neutralized ointment.

* See *in loc.* † Cent. 10. ob. 82.

We

We have already ſhewn, that a local gangrene ſometimes ariſes in particular parts from a *metaſtaſis* of morbific matter; and it alſo now and then happens, that a ſecretion of fluids which are very acrid, brings on immediately, or in a ſhort time, a *ſphacelus* in the place to which they are determined. In this inſtance the fever leaves the patient, when the *materia morbi* is completely ſeparated from the circulating fluids; or at leaſt no other ſymptoms appear, but ſuch as are common to local inflammation which ſurrounds the mortified part. Of this kind ſeems to have been the example, where a man, fifty years of age, ill of an acute continual fever, had, by a ſudden *metaſtaſis* of morbific matter, the extremity of the right foot mortified down to the bone in one night; but by the uſe of antiſeptic topics, the dead parts ſeparated and dropped off, and he recovered.

Local Sphacelus from metaſtaſis.

The Baron Van Swieten* mentions that many perſons in France, whoſe blood and juices had been contaminated by eating bad rye, were (probably in conſequence of a *metaſtaſis*) ſeized with mortifications in their extremities: and DOWLING's † family in this kingdom, from the loſs of their limbs in the ſame manner, were deplorable inſtances of the violent effects of acrimony in the blood, being occaſioned as ſuppoſed by the ſame kind of food.

After two or three days illneſs, an inflammation and a *ſphacelus* invaded the back and *nates* of a labourer, about forty years of age. The dead parts ſeparated of their own accord, and an exceſſive diſcharge

* Com. Sect. 424.

† I remember the account was publiſhed in the news papers, but I do not call to mind meeting with it any where elſe, except in Mr. O'Halloran's book, who has copied that part which Dr. Wollaſton wrote to excite charity. O'Halloran, p. 33.

followed

followed from a deep ulcer, more than a foot ſquare, for a great length of time. He kept a cow upon a little encloſure in a common, which ſupplied him with plenty of milk; and the many bowls he daily conſumed of this readily digeſted aliment, ſupported him againſt ſo large an evacuation, and enabled nature to triumph over the diſeaſe with no other aſſiſtance than common dreſſings. Indeed I have conſtantly obſerved, while a deſire for food increaſeth in proportion to the diſcharge, the patient often recovers; whereas if the appetite fails and cannot be reſtored, medicines afford no relief. An obſervation.

A peſtilential carbuncle (*anthrax carbo*) ſeems to have been ſometimes a diſeaſe of this kind, but with more virulence in the offending matter; becauſe it immediately burnt as it were the part it affected. Perhaps it may be compared to an eſchar formed by a cauſtic, and Carbuncle.

ſeems to have given way to the remedies uſed in promoting its ſeparation, together with medicines ſuited to the ſtate of the patient. Among us it is happy we meet not with ſo formidable a diſeaſe; and we muſt therefore refer to Riverius*, Wiſeman, and thoſe writers who had opportunities of ſeeing the malady: though in thoſe parts of the world viſited by the plague, I believe they are in poſſeſſion of more powerful internal antidotes than were given before the bark and other antiſeptics now in uſe were known.

Iſſues and ulcers.

Local *ſphaceli* ſometimes attend iſſues and old ulcers of the legs, from the impervioufneſs of the veſſels, and the ſtagnating juices by heat becoming corroſive and deſtroying the parts which contain them; but theſe commonly give way to digeſtives, and

* Ob. 477.

mild

mild antiſeptic cataplaſms alone: the following caſe, however, was rather more formidable.

A man, fifty years of age, had a violent pain in one hip, which, after ſome time, by a gradual deſcent, fixed upon the heel, and under the ancle, on the outſide of the foot, as far as the the metatarſal bones, when it became leſs violent; but a numbneſs enſued, and continued a year. A fiſſure then appeared in the thick ſkin which covers the heel, and ſoon became ſufficiently large to diſcover that the tendinous expanſion which covers it was diſeaſed; yet the ulcer was ſtill neglected about half a year longer, and then the affected parts began to pain him violently. In three days a *ſphacelus* appeared where the numbneſs had ſo long remained, ſpreading itſelf above the ancle; a violent inflammation invaded the whole leg, and enlarged it to twice its natural ſize,

his pulſe being quick, accompanied with great thirſt, and a white tongue, the common conſequences of inflammation.

The mortified parts were ſcarified, dreſſed with digeſtives, &c. and to the inflamed leg, a neutralized ſoft plaſter was applied. He was put to bed, and two ſcruples of bark given every two hours, all that night and half the next day. After he had taken the ſecond doſe a violent ſweat, which continued all night, broke out; and next morning the tumor and inflammation were greatly reduced. His pulſe was now regular, and he afterwards ſlept well in the night. The mortification made not any advance; and when the putrid tendon was ſloughed off, and part of the *os calcis*, which was become carious, removed, he got well. And though it is probable, upon the con-

fined

fined ichor being ſet at liberty, and proper correctives being applied, the mortification would have ſtopped without the uſe of internal medicines; yet the bark ſeemingly did ſervice in this debilitated habit by promoting a ſweat. Whereas were the ſame ſymptoms to appear in a man of vigor and ſtrong fibre, neutral ſalts in the beginning, mixed with the bark, would be a better medicine.

Recent ulcers.

This kind of ſphacelus is not confined to old ulcers, but alſo happens to recent wounds, eſpecially when they ariſe from bruiſes accompanied with an acrid ſtate of the juices; for ſtagnating in conſequence of inflammation following the injury, they ſphacelate the parts with which they are in contact; but a recovery commonly follows rendering the veſſels pervious, and correcting the offending matter.

A man, near fifty years of age, of what has

has been called an high ſcorbutic habit, had a ſmall wound, made by a ſtone thrown againſt his ſhin, which ſoon inflamed: a mortification for more than an inch round followed, ſurrounded with ſtill greater inflammation; but a period was put to the diſeaſe by this method. In older men under the ſame predicament, I have been obliged to have recourſe to wine and cordials joined with the bark, before any progreſs could be made towards a cure; and conſtantly finding it true, we muſt repeat what we long ſince obſerved, that the common hot fomentations and cataplaſms in theſe caſes will invite a flux of humors, and increaſe the diſorder they are intended to prevent, as will in the ſubſequent chapter more fully appear.

Compreſſion. Violent compreſſion is well known to be often the cauſe of local *ſphaceli*, ſuch as ſtrait bandage, lying long upon any particular

particular part, &c. but theſe readily give way to ſimple dreſſings when the cauſe is removed. They will alſo happen in any part where all the nerves belonging to it are rendered incapable of performing their office. This I remember was the caſe of a woman who for ſeveral years had loſt the uſe of her thighs, from a violent bruiſe upon the *os ſacrum*. The mortification, after deſtroying the part, and moſt of the *glutæ* muſcles, ſtopped without the leaſt aſſiſtance from art; and when I firſt ſaw her, which was only two days before ſhe died, there did not appear any other indiſpoſition than might be expected from the large diſcharge of matter, which ſeemed to be the immediate cauſe of her death. But this I imagine very rarely happens, becauſe I have never met with it ſince this inſtance, which is thirty years ago;

owing

owing I ſuppoſe to that diffuſion of the brain I have ſpoken of in another place.*

From cold,

We have already taken notice of a local gangrene from the effects of cold, or the penetration of froſty particles, and of the methods uſed to prevent a *ſphacelus:* we are now to conſider a *ſphacelus* actually formed from this cauſe, which requires no particular method of treatment. It is no unuſual thing to ſee the toes, when mortified, in conſequence of being frozen, ſeparate without any other aſſiſtance than a ſtale beer poultice: and ſome years ſince I ſaw a great part of both feet of a lad, which were mortified by lying upon the coal-pit bank, though he had a great fire on one ſide of him, in a cold froſty night, cured by the ſame method.

White ſphacelus.

The white *ſphacelus*, which happens to the breaſt of lying-in women, is

* See vol. i. page 162.

mentioned

mentioned in another place†; perhaps there may ſtill be other cauſes of local *ſphaceli* which have at this time eſcaped my notice; but what I have recorded will lead to them. The moſt material circumſtance in the cure is a ſpeedy ſeparation of the dead and living parts, otherwiſe the diſeaſe may ſpread in the manner Celſus deſcribes. For the acrid matter will deſtroy the adjacent parts that are inflamed, and by irritating the ſenſible fibres, produce a freſh inflammation. In this manner it ſpreads, and abſorption taking place, the whole body becomes contaminated, and death enſues; unleſs it can be prevented by an early uſe of the bark, and other antiſeptics, as circumſtances may require. We will give an inſtance of this kind which with what has already been ſaid, will prevent

† Treatiſe on Inflammation.

the

the neceſſity of writing a ſeparate chapter on ſpreading *ſphaceli*.

Spreading ſphacelus.

A woman, betwixt fifty and ſixty years of age, nurſed ſome of her own relations in a fever, attended with a ſore throat; but after their recovery ſhe removed many miles to her own houſe, apparently without being any way indiſpoſed. Nevertheleſs, ſhe had ſcarcely been at home a week or ten days, before ſhe became feveriſh, and complained of numbneſs in one leg, which ſoon put on a doubtful appearance. Coldneſs ſucceeded; bliſters full of reddiſh ichor aroſe, and a perfect *ſphacelus* of the whole leg enſued. During this time her pulſe kept in tolerable good order; and were it not for the diſeaſe deſcribed, ſhe ſeemed to have very little the matter with her. However, in oppoſition to every attempt to prevent it, the mortification ſpread over the knee, and kept creeping

creeping from fibre to fibre, till it had invaded the whole thigh. The parts, as the diſeaſe proceeded, firſt ſwelled, and became ſomewhat inflamed; greenneſs, bliſters, and corruption followed, and arriving at the abdomen by degrees, the pulſe ſunk, and ſhe died without ever having been delirious or inſenſible.

CHAP.

CHAP. II.

ON SPHACELI UNATTENDED WITH ANY CONSIDERABLE DEGREE OF INFLAMMATION.

HITHERTO we have treated of *ſphaceli*, ſurrounded with inflammation, in which emollient applications are neceſſary; but it ſometimes happens that little or no inflammation appears previous to, or during the *ſphacelus*; but the parts, after perhaps ſwelling and becoming œdematous, gradually alſo become cold, then bluiſh, green, and black; the cuticle riſes into bliſters, which diſcharge a red lymph; and ſometimes the dead parts become dry and indurated.

This is one ſpecies of *ſphacelus* in which the ſentiments of Celſus* ſhould

* Lib. v. cap. 26.

be

he adopted when he forbids ſuppurating medicaments and warm water. I know hot emollient fomentations are manifeſtly injurous in this inſtance; and there cannot be any doubt but heat and moiſture increaſe putrefaction. Nor do the antiſeptic ingredients in theſe decoctions prevent their having this effect; for, independant of all other properties, by weakening they occaſion the ſound parts to give way to the ſpreading of the diſeaſe. Even moiſt and relaxing cataplaſms, though made of antiſeptic ingredients, where the ſtate of inflammation does not require their uſe, too often extend the malady. Boerhaave prevented a *ſphacelus* from ſpreading for ſix months, by drying antiſeptics; but upon ripening cataplaſms being applied, it ran up in three days time as high as the thigh,

Suppurating medicaments not to be uſed.

and the patient expired. Nor are abundance of other inſtances wanting to ſhew the impropriety of this method of treatment, where debility and putrefaction prevail. It is much better to apply a defenſitive ſuited to the ſtate of inflammation above the mortified part; but upon the *ſphacelus* itſelf a dry powder, compoſed of bark and myrrh, are preferable.

Scarifications. Much has been ſaid about making ſcarifications into mortified parts; but the propriety or impropriety of this practice ſeems to depend upon circumſtances. Where the *ſphacelus* is ſuperficial, they are unneceſſary; becauſe topical remedies may dry up or penetrate ſufficiently to correct the putrid fluids, which extend the diſeaſe. But when the putrefaction is conſiderable and deep, they may be made for the purpoſe of applying ſpirituous tinctures, &c. which, notwithſtanding what

what may have been ſaid to the contrary, certainly correct putrefaction in mortified limbs, and thus may aſſiſt in preventing the diſeaſe making a greater progreſs. But they ſhould not be carried into the ſound parts, for the acrid fluids draining into the inciſions ſpread corruption.

CHAP. XIII.

ON SPHACELI FROM WEAKNESS AND DEFICIENCY OF NATURAL HEAT.

IN this kind of *ſphacelus* there ſeldom appears any other indiſpoſition than weakneſs; and the parts become black and mortified in the manner laſt deſcribed. Wherefore the only intentions of cure are to promote warmth and a briſker circulation, and to correct putrefaction in the diſeaſed part; for which purpoſe cordials inwardly, and warm antiſeptic topics outwardly, are the remedies to be employed.

Intentions of cure.

Old perſons are naturally ſubject to this malady, but it may alſo happen to thoſe who are young and middle aged, from any cauſe which, by weakening nervous

Who ſubject to it.

vous energy, impoverishes the blood and debilitates the animal fibres much below the standard of the health, as the case annexed will exemplify. But whatever may be the cause, the treatment is much the same; only joining particular remedies where particular circumstances require them. I commonly apply a warm defensative above the mortification, and prefer dry dressings to those in common use in the manner described. The practice of applying hot bricks, bladders full of hot water, &c. to promote a briskness in the circulation, are preferable to moist fomentations, for reasons before given. Scarifications are seldom necessary or useful. Wine is a principal remedy, and warm cordials should be joined with the bark. But even in this instance, which above all others requires an increase of heat or warmth, I cannot agree with those who advise bringing on in-

flammation to ſuppreſs the diſeaſe. We have already ſhewn the impropriety of this practice in gangrenes, and I know of nothing more likely to do injury in a *ſphacelus*. To increaſe warmth or vigor where it is wanting is natural and rational; but to bring on one diſeaſe to cure another, of which it often is a fore-runner, ſeems to be theoriſing beyond the bounds of ſafety.

I formerly gave inſtances where this kind of mortification happened from low living and dram-drinking, &c. to ſhew the power of the bark in ſuch caſes; but theſe are no longer neceſſary, and we ſhall only recite thoſe which ſhew the nature of the diſeaſe.

A ſtarved ideot, twenty-three years of age, who lay in the cold in barns, &c. was ſeized with a mortification which had advanced to the middle of the calf of his leg before it was diſcovered; but upon

upon giving him caudle, putting him into a warm bed, and applying pledgets of digeſtive, it ſtopped and ſeparated. The blood which came from the muſcles underneath, was ſo extremely thin and poor, as ſcarcely to colour a white cloth; but nouriſhing food alone enabled him to bear the loſs of his leg at the end of a month, and he recovered.

A woman, about twenty-three years of age, in a miſcarriage, loſt an amazing quantity of blood; her pulſe was ſcarcely perceptible, her ſkin was left exceeding pale and cold, and exceſſive weakneſs induced us to think ſhe could not live many days. Wine, however, and nouriſhing broths in ſmall quantities, often repeated, ſupported her; but ſhe lay in a hopeleſs ſtate ſome time, and in a week or ten days the lower part of her back began to mortify, the ſphacelus ſpreading to a great extent. Af-

terwards her hips, elbows, and ſhoulders, and other parts on which ſhe preſſed, underwent the ſame change; yet a ſeparation of the dead parts followed; good nurſing and the uſe of ſimple dreſſings, and, having nature on our ſide, by drinking milk, and taking light preparations of the bark, to which after ſome time ſmall doſes of ſteel wine were added, ſhe bore up againſt a great diſcharge, and in the ſpace of eight months perfectly recovered.

Sphacelus in dropſical legs.

The ſwelling which ſometimes happens in the legs of dropſical people, is owing in ſome meaſure to want of vigor, though diſtenſion may aſſiſt in bringing it on; becauſe when the water is diſcharged by the running of the ulcer, it is not uncommon for the dead parts to ſeparate, and a recovery take place, at leaſt for a time; eſpecially when aſſiſted with medicines which invigorate the blood,

blood. I mean thoſe dropſies in which the extravaſated lymph has not acquired a morbid diſpoſition; for when it becomes acrid, and we ſee ſmall corroſive inflamed bliſters appear upon the legs, I know of no mortification which more certainly ends in death. We ſhould therefore avoid puncturing them under ſuch circumſtances as neither promiſe benefit to the patient nor credit to the operator. But I will mention a mortification in a dropſy, accompanied with a diſeaſed liver, in which the united powers of bark and regenerated tartar were worth notice.

Dropſy and jaundice.

A ſober young man, betwixt twenty and thirty years of age, was ſeized with the moſt obſtinate jaundice I ever ſaw, accompanied with clay-coloured ſtools; and in time his liver appeared to be larger than uſual. An aſcites followed, his legs ſwelled, became ſo cold, that

that the application of warmth had no effect; and a perfect *ſphacelus* ſpread itſelf through the ſkin and cellular membrane upon the calf in each of them. The dead parts were divided with a knife, common topical remedies were employed, and to twenty-eight ounces of tincture of bark, half an ounce of regenerated tartar was added; of this he took four ſpoonfulls every three or four hours; he made many gallons of water loaded with bile; nor did this evacuation ceaſe while any water remained in the cavity of the abdomen. And though the diſcharge from the legs no doubt aſſiſted in unloading the body, yet the diſeaſe in the liver was moſt probably removed by this medicine; for the jaundice left him, the ulcers in the legs were healed in the common manner; and, contrary to my expectation, inſtead of a temporary, he received a permanent cure. Since this inſtance

ſtance, I have found the ſame remedy in a variety of caſes a powerful deobſtruent. I have again ordered it in a jaundice with ſucceſs, and again ſeen it carry off the water in a dropſy; but what we have ſaid about this diſeaſe requiring different remedies under different ſtates of irritability ſhould be remembered; for I know it will not always anſwer our purpoſe when the water in a dropſy is to be diſcharged. But to return.

Œdematous legs are ſometimes apt to inflame and ſphacelate in ſmall ſpots; or, when an abſceſs happens in them, the lips of the ulcer, after the matter is diſcharged, become black and dead, and call for ſuitable aſſiſtance. But theſe appearances are in general readily ſubdued by antiſeptic balſams; Galen's antiſeptic cataplaſm before ſpoken of, and the bark, either with or without cordials, as particular circumſtances may require; or ſhould

Œdematous legs.

ſhould an acrid ſtate of the juices give riſe to the complaint, as I have known happen, the next chapter will furniſh materials for the relief of the patient.

CHAP.

CHAP. XIV.

ON SPHACELI FROM A MORBID DISPOSITION IN THE JUICES, IN PEOPLE ADVANCED IN YEARS.

AS people advance in years, the ſecretions, it is reaſonable to ſuppoſe, are not carried on in the ſame regular manner as in youth; ſome of the finer excretory ducts, perhaps, become uſeleſs, and hence that acrimony in the fluids we obſerve in old people; or ſuch a ſtate, it is very well known, is not uncommonly induced, by free living, high ſeaſoned food, an inactive life, &c. or both cauſes may be joined, ſo as to give a very unfavourable temperament to the body. Accordingly, we very often ſee in people towards ſixty years of age, or ſometimes ſooner, the ſkin and cellular membrane

One cauſe of acrimony in the fluids of old people.

membrane ſphacelate in conſequence of the ſlighteſt injuries; and the diſeaſe creeping on day by day, ſoon becomes formidable, if not prevented by art.

We have before, in chapter the 10th, ſpoken of a local *ſphacelus*, from the juices acquiring acrimony by ſtagnating in the inflamed part; but in the preſent inſtance, the whole ſtate of the fluids are affected, and the general habit of the patient is to be corrected, before a cure can be obtained. There is commonly a ſlight inflammation, with a ſort of an eryſipelatous caſt, and for the moſt part very little ſwelling attends; nor is the fever troubleſome, though the degree of irritability, according to the pulſe, riſes to one hundred and twenty; but the pain in the affected part often requires the uſe of opium to give the patient eaſe. It was in this kind of *ſphacelus*, that I firſt diſcovered the impropriety of uſing hot

State and ſymptoms.

hot fomentations. I ſaw the diſeaſe daily getting ground upon me, and ſuſpecting their effects, I laid them aſide with a happy iſſue; and after more than thirty years obſervation, I am convinced that Celſus was perfectly right in affirming that in ſuch inſtances they cauſe the diſorder they are intended to prevent.

It is true, I have ſeen tedious recoveries by ſuch treatment; whereas, a dry powder, compoſed of equal parts of bark and myrrh, very often puts an end to the ſpreading of the diſeaſe, in a few dreſſings. Of the propriety of this method of proceeding, I have ſeveral times had the moſt deciſive evidence; for being called, where the diſeaſe ſpread under fomentations, it was immediately ſtopped by this contrary management. Afterwards the dead parts ſeparated by antiſeptic balſams, to which the *tinct. theb.* may be added, if the irritability of the ſore

ſore requires ſuch an aſſiſtant. Nor ſhould the application of a defenſative, above or round the part, be forgotten; and a ſimple diachylon plaſter will often be found the moſt proper; for there is generally a heat under what has been called a ſtrict or rigid fibre in theſe habits, that will not admit of any thing that heats or irritates.

I have preſcribed the bark in theſe caſes, and ſeen it given by others; but I apprehend with little or no advantage, becauſe the diſeaſe continued to ſpread till the topical remedies juſt mentioned took effect: and the ſubſequent ulcer, notwithſtanding its continued uſe, daily enlarged, its edges being ſlowly eaten away by a corroſive ichor. Spirit of ſalt taken inwardly will commonly be found more powerful in correcting the acrimony of the fluids; but when neither of theſe remedies are effectual, and

eruptions

eruptions with white ſcales, appear in other parts of the body; I have ſeveral times ſeen a grain of quickſilver divided in ſtarch, given twice a day, in eight or ten days time, do wonders. The bark and ſpirit of ſalt proving ineffectual, is a criterion which points out the neceſſity of giving mercury. This method of giving it evades all hazard: and if the bowels are occaſionally kept open, the teeth will not be affected; but more of this when we treat of mortifications of the toes, with which the preſent ſpecies has ſome connection.

Mercury when to be uſed.

CHAP. XV.

ON MORTIFICATIONS OF THE FEET AND TOES.

THE crural artery and its branches being found offified in a gentleman aged fixty-feven, who died of a mortification which began in one of his toes*; an opinion took rife, that the fame cauſe moſtly produced this diſeaſe, and that there were no hopes of recovery. Experience has proved the falſity of this reaſoning; and though the malady is always to be dreaded, yet we have ſometimes the pleaſure of ſeeing our patients get well. It moſt commonly happens to old people, but we alſo meet with it in thoſe not far advanced in years, who, from free living, &c. have injured their

Cauſe.

* Philoſ. Tranſ. No. 369, p. 226.

con-

conſtitutions. In the former a deficiency in nervous energy may alone be the cauſe, or this may be accompanied with an acrid ſtate of the juices †. In the latter both theſe cauſes are moſtly joined; and preternatural irritability with great pain often attend the whole.

Now when the pain and preternatural irritability are great, opium is indiſpenſable; but it cannot always be followed with ſucceſs, becauſe the diſorder is often incurable. Beſides, though under proper regulations, I believe opium to be a moſt powerful remedy in this diſeaſe, yet it will ſometimes increaſe it; nor is it always alone ſufficient to effect a cure, the aſſiſtance of other remedies being requiſite. Its being given in large doſes will frequently fruſtrate our intentions; and it may alſo be rendered uſeleſs by improper applications to the part. Opium.

† See laſt Chap.

When not ſucceſsful.

I do not remember ever ſeeing one inſtance of opium ſucceeding in the cure, or in the mitigation of this complaint, where fomentations and turpentine digeſtives were uſed: and I do believe we might preſcribe it to eternity without ſucceſs, were no alterations to be made in theſe particulars. I am very certain, fomentations, of whatever kind they may be, increaſe putrefaction in ſores; and that in this mortification, when a red line has pointed out a diſpoſition in the diſeaſe to ſtop, a repetition of the fomentation has frequently interrupted nature in her progreſs towards a cure, and aſſiſted in haſtening the patient to his grave; eſpecially when aided with thoſe dreſſings which invite a flux of humours to the part.

Means of rendering it unſucceſsful.

The uſe of opium in this inſtance appears to be in leſſening the irritability of the affected part, becauſe pain is not capable

pable of bringing on either inflammation, or *ſphacelus*, as pain itſelf evinces. And why ſhould not our ſedatives be applied immediately to the affected part? Lenients, indeed, have been recommended, and I have not the leaſt doubt, but ſoaking the foot and ancle in warm milk, and applying a ſimple emollient pultice, is a method preferable to that commonly uſed; and the patient will often derive much advantage from its eaſing pain. Nevertheleſs, remedies being mild and ſoft, and lying eaſy upon the part, are not ſufficient; they ſhould not only have a property of procuring eaſe, by taking off tenſion, but they ſhould have an innate property of leſſening the irritability of the nerves: and for this purpoſe various ſedatives may be neceſſary, as preternatural ſenſation does not always give way to the ſame remedy. Opium, it is true, in general, leſſens all kinds of

Lenients.

Not alone ſufficient.

preternatural irritability for a time; but the diſeaſe occaſioning this affection can often only be entirely removed by the native balſams, eſſential oils, and the like. Pitch has a powerful ſedative quality; and an ointment of thin conſiſtence, compoſed of equal quantities of this ingredient and bees wax, with a large quantity of oil, will, for the moſt part, be found a remedy perfectly capable of allaying, without inconvenience, that kind of irritability which commonly prevails in this diſeaſe: and by mixing tincture of myrrh, or the like, along with it, we have a good antiſeptic for the parts, where, on account of the *ſphacelus*, antiſeptic dreſſings are required. If a proper quantity of opium be added to the bread and milk pultice, which covers the whole, it will be found a better remedy than the ſimple pultice only. In ſome caſes, an anodyne emollient cerate,

rate, made of diachylon, the powder of marſh-mallow leaves, or linſeed flour, a little wax, opium, pitch, and oil, ſhould be preferred: though I have ſeveral times ſeen dry dreſſings of bark and myrrh put an entire ſtop to the mortification even in worn-out conſtitutions where death ſeemed inevitable; and I generally now have recourſe to them in this complaint.

By this method of proceeding, there is leſs neceſſity for taking large doſes of opium, which very frequently bring on a drunken delirium, make the patient ſick, take away appetite, and thus do miſchief inſtead of good; as is evident from their no-way ſtopping the progreſs of the diſeaſe, when they have theſe effects. Whereas, ſmall doſes, frequently repeated, will gradually leſſen nervous irritability, without ſuch inconveniences. I can aver, that I have repeatedly ſeen

this kind of mortification removed under the uſe of anodyne topics, when we were obliged to leave off opium, becauſe it brought on a delirium, and took away the appetite, without producing any good effect: and it may, I think, be laid down as a rule, that unleſs the patient can eat mild, nouriſhing food, there will be but ſmall hopes of a cure.

A man, about ſixty years of age, who had been a free liver, and rather corpulent, was ſeized with this kind of mortification; and the parts were ſo very ſenſible, that he could not bear a ſtale-beer pultice which was firſt applied. Recourſe was therefore had to a white-bread pultice, and the bark and myrrh powder, which agreed perfectly; and when the diſeaſe had ſpread half up his foot, it ſtopped. Betwixt the dead and living, and to the parts actually dead, antiſeptic balſam, to which the *tinct. thebaica* was added, was applied. Separation took place,

new

new fleſh aroſe, and the lips of the ulcer had a tendency to heal; but he had a great averſion to all kind of medicines, and it was with difficulty we now and then got down a doſe of opium to procure him a good night. He could take little or no food, his chief ſupport for ſeveral weeks was Geneva and water, and at laſt he ſeemed to die rather from being worn out than of the diſeaſe, which was apparantly ſubdued without much aſſiſtance from nature.

When this kind of mortification is accompanied with an acrimony in the juices, it requires other medicines beſides opium. I many years ſince read an author I cannot now refer to, who adviſed mercury in the cure of mortifications in the feet and toes of old men; becauſe he ſaid, they aroſe from the ſcurvy *. And ſome

* The word ſcurvy has been applied to a variety of diſeaſes, which have no affinity with each other; and I only

ſome years ſince, being foiled in an attempt to cure a mortification in the toes and foot of an old gentleman at Retford, I communicated this information to the late Dr. Booth, who had the immediate care of the patient; and had the pleaſure of reading, in a letter from him ſoon after, that he had a recourſe to a reſolution of ſublimate; and that though the diſeaſe had ſpread to the middle of the foot, yet it ſoon ſtopped, after he began to take this medicine. We followed the practice, which has been long well eſtabliſhed, of ſuffering the dead parts, without ſcarifying, to drop off of their own accord, with perfect ſucceſs. Since this, a perſon under my care, in a ſimilar inſtance, recovered, while the ſedatives mentioned were applied, and an electary taken, compoſed of bark, gum guaia-

I only underſtand it in this inſtance, as a particular kind of acrimony, which mercury will correct.

cum,

cum, and cinnibar of antimony, after opium by the mouth had been fairly tried, without any good effect. But where the lips of the sore are tucked in, and eaten away by a corrosive ichor, the blue pill is a better remedy.

Sedatives when they do injury.

However, though we approve much of sedatives in the diseases we have described; yet there is a mortification in the feet and toes of old people, in which they appear to me to do injury. A month after a frost and snow, in January 1776, an active farmer, eighty years of age, was seized with a black spot upon the end of his great toe; presently the cuticle began to separate, and a *sphacelus*, in some time, extended itself to the foot and neighbouring toes, till they were all destroyed. During the progress of the disease, the fairest trial was given to opium. At first he took a grain, *twice*, presently double this quantity, then the same dose every four

four hours, and afterwards oftener, for a month; but the diſorder daily gained ground under mild applications, and his health became ſo greatly injured, that we ſuffered him to return home, leaving off all kinds of medicines, and had very little hope of his recovery. Nevertheleſs we ordered him to drink wine, to live upon a generous diet, and to apply to the foot, a mild digeſtive, and the ſtale-beer pultice. But he preferred his own malt liquor, lived in common with the family; and went on for a month at leaſt, without any conſiderable alteration. In the reſult his health amended, the mortification ſtopped, above half his foot dropped off, and he is now in good health. In this caſe then, which comes within the deſcription given of the mortification of the toes and feet, I am perſuaded opium did harm; and if we reflect upon the matter, will it not ſeem probable that it

muſt

muſt always do harm, where nervous influence is leſs powerful than it ought to be? In a man of eighty, notwithſtanding he was very active at that time of life, the *vis vitæ* muſt of courſe be weakened. The cold, as he told me, had a powerful effect upon both feet, and perhaps, by deſtroying the remains of nervous energy in one of them, the mortification was brought on, and afterwards in ſome degree ſpread, by the aſſiſtance of opium; becauſe it ſtopped when the opium was laid aſide, and a little vigour given to the habit. To prevent, therefore, an indiſcriminate uſe of this medicine, in all mortifications of the parts we have been ſpeaking of, we will more clearly, as far as our preſent experience enables us, diſtinguiſh the caſes in which ſedatives may do ſervice, and thoſe in which they ſhould not be employed *.

* See vol. i. p. 206.

It

It is eaſy to conceive, that in people advanced in life, who have not been very temperate in eating or drinking, the juices may have acquired acrimony; and, accordingly, the diſeaſe in queſtion ſeems ſometimes to ariſe from this cauſe, accompanied with an extreme degree of irritability of the part; which may, perhaps, be owing to the conſtant irritation which ſuch a ſtate of the juices, when they once ſtagnate, muſt occaſion; in which ſtate, opium and the alteratives mentioned ſeem to be proper.

Opium when proper in this diſeaſe.

It begins with a black or blue ſpot ſomewhere about the toes; the cuticle ſeparates, a lividneſs appears underneath, the diſeaſe gradually extends itſelf to the foot, and the ulcer which follows has ſometimes different appearances in different parts at the ſame time. In one part, perhaps, there is a perfect *ſphacelus*; in another, new fleſh appears; and in a third

third, the lips of the ſore are tucked in, and ſeem to be conſtantly eaten away by a corroſive ichor. Pain, more or leſs, is a conſtant attendant; inflammation, and a ſwelling of the parts is not uncommon; a moſt certain criterion is the ſenſibility of the parts of the ulcer which are alive; and the pulſe is quickened in proportion to the degree of inflammation which prevails.

When not proper.

On the contrary, when the mortification ariſes from the *vis vitæ*, or nervous energy being deſtroyed, a perfect *ſphacelus* keeps ſpreading forward; the parts die apparently without corroſion, and there are no ſigns of an acute ſenſation when they are touched: all which ſeem to evince, that ſedatives in this inſtance cannot afford relief, nor is mercury admiſſible. In ſhort, wherever irritation has a ſhare in increaſing gangrene, opium will be uſeful. When death, in a particular

Mercury when not admiſſible.

ticular part, is the conſequence of a deficiency in nervous energy, warm and invigorating remedies are preferable: but when a mortification in the extremities, as often happens, comes on, where nature is worn out, and incapable of aſſiſting us, what can be expected from art?

Of late, cataplaſms in a ſtate of fomentation compoſed of honey, flour, and yeaſt, have been recommended in mortifications. Imagining fixed air to be the univerſal acid, which probably is the moſt powerful antiſeptic in nature, I thought it might be ſerviceable in ſuperficial *ſphaceli*; and accordingly tried it in ſome large ſphacelated ſpots, in an œdematous leg. The firſt day it ſeemed to agree; the next it gave pain, and occaſioned a bad night. In the morning the *ſphaceli* were ſurrounded with inflammation, and a flux of humours invited into the part; wherefore I laid it aſide, and

and cured the patient in the common manner; and the faculty will judge of its uſe in mortifications attended with great nervous ſenſibility, where opium is neceſſary. For honey is an eſcharotic, and not being altered by this preparation produces its uſual effects.

CHAP. XVI.

ON THE AMPUTATION OF MORTIFIED LIMBS.

THE frequent re-appearance of *ſphaceli* after indiſcriminate amputation to ſtop their progreſs, introduced a very contrary doctrine, that it ought not to take place, when neceſſary, till the mortification was not only ſtopped but the ſeparation of the dead and living parts ſomewhat advanced: and we apprehend the latter part of this admonition is more neceſſary, not only that the diſpoſition to mortify, and the impoveriſhed ſtate of the blood may be altered, but as it may prevent the ill conſequences of cutting through parts that are become more irritable from being lately inflamed

Reaſons for not amputating till the mortification is ſtopped.

inflamed. In our treatiſe on irritability in general*, we have pointed out ſome inconveniencies from irritating thoſe parts which have been inflamed; and ſome years ſince taking off the cone in the ſtump of a thigh, brought on more inflammation, fever, and ſuppuration, than happened after the firſt operation.

Effects where inflammation had long been gone off.

But ſometimes the effects are of a different nature. "An Auſtrian officer "had his hand miſerably ſhattered by a "cannon ball, and being deſtitute of "help, in a wood for three days, a mor- "tification which extended almoſt to "the elbow with great ſwelling and in- "flammation quite up to the ſhoulder, "enſued. But in three days more, by "the uſe of fomentations, the ſtale-beer "pultice, with *theriaca*, and taking "the bark, the inflammation abated, the "ſwelling began to ſubſide, the edges

When it had not entirely diſappeared.

* Vol. i.

" of the mortification were ſeparating, " and the dreadful ſymptoms that for- " bad amputation, were now ſo much " altered, that the ſurgeons did not at " all heſitate to take off the limb. But " this was done to very little purpoſe, " for three or four days after the ampu- " tation, his jaw being fixed by a con- " vulſive attack, and his countenance " greatly diſtorted, he expired * ;" owing probably to the increaſe of irritability, and to the violent effects it had upon the whole nervous ſyſtem †.

How to be avoided.

But in mortifications, theſe inconveniencies may often be avoided by following the practice of making the amputation betwixt the dead and living parts after ſeparation has taken place; by drawing back the ſound fleſh, and cutting round the bone that ſome part of it may be

* See Ranby on Gun-ſhot Wounds.

† See Differt. on the Nerves, and on Irritat. in general.

laid

laid bare underneath, in the manner Celſus* has long ſince adviſed. This, though it may not be accompanied with the *eclat* uſual to what is called a capital operation, yet the patient receives a ſatisfactory cure; and thoſe who reflect on the ſkill neceſſary for executing this mere mechanical part of the profeſſion, will have more pleaſure in ſhunning pain and danger than in acquiring the reputation of being an expert operator. I have conſtantly, for many years, followed this practice whenever I had occaſion to remove a mortified limb, where it could be conveniently done; and I ſome time ſince met with a very good inſtance in ſupport of ſuch procedure. A woman had a mortification ſeized her hand and wriſt, from violence of inflammation which ſpread itſelf within three or four inches of the elbow, before I ſaw her.

* Lib. vii. cap. 33.

However it now luckily ſtopped; and beſides the dreſſings to the ulcer, we applied antiſeptics to the dead parts, to prevent their giving us trouble. The ſurgeon, and the relations to the woman, now wiſhed to have the arm taken off above the elbow; but I painted out to them ſome inconveniences, which I had ſeen from cutting through parts lately inflamed; and that we ſhould make equally as good a cure, by ſawing through the dead bone, as by performing a painful, unneceſſary, and hazardous operation. Accordingly, waiting till there was ſufficient room for the ſaw, we cut through the bone without pain, or without giving the leaſt freſh trouble to the patient. The ſkin, and ſome of the muſcles being left lower on the back part of the arm, the ſurgeon turned them up over the bone by degrees, and made, much to his ſatisfaction, a very good cure.

When

When a ſphacelus ſtops upon a joint, Celſus ſays "an inciſion muſt not be "made in that part." But ſawing off the ends of the bones, and cutting away the tendons, which will give no pain, may be ſufficient to prevent the ill conſequences that have ſometimes happened from taking off limbs at the articulation, with a neglect of theſe circumſtances. For though the fingers, the *os humeri*, and even the thigh-bone, have been removed by dividing the joint, without bringing on any troubleſome ſymptoms; yet convulſions and death are apt to follow amputation when made in the joints of the larger extremities: probably from the diſtention of the nerves, which happens in conſequence of the ſwelling in wounds of membraneous parts. Not that we mean to exclude the common method of amputating in mortifications where particular circumſtances

Sphacelus ſtopping at a joint.

may happen to make it neceſſary; remembering that the after-treatment, or what we call medical ſurgery, is the principal requiſite to a good cure: of which we ſhall ſpeak in its proper place.

CHAP.

CHAP. XVII.

ON GANGRENOUS ABSCESSES.

About the fundament.

LE DRAN, in his chapter on the *fiſtula in ano*, ſpeaks of a large gangrenous abſceſs in this part, but deſcribes only a purulent abſceſs of which we have already ſpoken. Mr. Pott has been much more explicit, and ſays the cellular and adipoſe membrane are affected in the ſame manner as in the diſeaſe called a carbuncle. He has deſcribed the ſymptoms, variety, and progreſs of the complaint, with accuracy; and conſidering the fundament as the ſink of the body, it is rather ſurpriſing that we do not oftener meet with virulent abſceſſes in this part. I have met with but few of them:

the

the inflammation had an eryſipelatous appearance; the ſkin and cellular membrane both became putrid and ſloughed away, leaving an opening ſufficiently large, for the application of antiſeptic dreſſings, by which the ulcer was cured.

An early opening, when to be made.

An early opening when the matter begins to fluctuate, may prevent miſchief; and if there is a fair opportunity for making a free inciſion, we ſhall do well in diſcharging a corroſive ichor before it has committed much havock; the remainder of the cure will then differ no way from that laid down for the treatment of the modern carbuncle.

Of the tendons.

But the moſt dangerous abſceſs of this ſort is that beginning in the tendons about the toes and feet of people advancing in years; and deluding us for ſome time, after the onſet, with fallacious hopes of a recovery. A ſmall abſceſs forms upon or about the toes, and tolerable good matter,

ter, or matter and ichor mixed, is diſcharged: upon examination we find the tendon to be diſeaſed, and the ulcer ſometimes puts on a putrid appearance. But this for the moſt part is commonly ſoon got over by appoſite dreſſings; the tendon ſeparates in putrid rags, new fleſh ariſes, the ſides of the ulcer ſhew a diſpoſition to heal, and give reaſon to expect all will be well. But at the time we are in expectation of finiſhing the buſineſs, if not before, a freſh abſceſs forms on the top on the foot, where we have much more to do with putrid tendons; but even in this ſituation we commonly make head againſt the diſeaſe for a time, till the membranes and tendons about the ancle are all diſſolved and ſpreading up the tendons in the leg, great ſuppuration exhauſts the patient. Sometimes, indeed, he dies before the putrefaction of the tendons, ligaments, &c. has made ſo great

a pro-

a progreſs; for there is in this diſeaſe, ſeemingly, always a worn-out conſtitution. The appetite fails, the patient is weak, ſleeps ill, and though his converſation is lively, while he lies ſtill, yet upon being moved his weakneſs ſhews itſelf ſufficiently to point out the danger of his ſituation.

If any conſiderable inflammation happens to attend the forming of matter, a fever in proportion accompanies; otherwiſe when the matter is got at liberty and the inflammation is gone down, nothing of this kind moleſts the patient, who ſeems eaſy and quiet for the moſt part under his malady. He drinks his wine or ale with pleaſure, and I have no doubt finds it refreſh him; nor do I know of any thing, aſſiſted with nouriſhing broths, which does more ſervice, if kept within due bounds; not forgetting that many under theſe circumſtances

have

have been free livers; and that in their allowance, regard muſt be paid to former cuſtoms. I have tried the bark in this inſtance without effect; no other advantage ariſes from opium than making the patient ſleep; and yet by diet and proper topical applications, we ſometimes enable him to hold out with ſome degree of comfort to himſelf a conſiderable time: and when the ſcene is cloſed, it is commonly without diſturbance. With one of theſe, I apprehend all gangrenous abſceſſes which may happen to the body will correſpond; for in every inſtance a combination of putrid ſloughs and pus, gives appellation to the diſeaſe.

CHAP.

CHAP. XVIII.

ON STRUMÆ, OR THE EVIL.

AS abſceſſes not unfrequently happen in this complaint, we are led to treat of it in this place; and for reaſons that will be obvious in the next chapter, it is neceſſary to recollect, that Hippocrates* uſed the word Χοιράδες to ſignify chronic ſwellings of the glands in different parts of the body; but ſays thoſe about the neck are the worſt. Celſus † calls them *ſtrumæ*, gives nearly the ſame account of their nature and ſituation, and adds the authority of *Meges*, about their being found in women's breaſts. Paulus ‡ ſays they are indurated glands in the neck and other

Strumæ, what, and why ſo called.

* De Glandulis. † Lib. v. cap. 38. art. 7.
‡ Lib. v. cap. 35.

parts

parts of the body, eſpecially in the groin; and in this all the Greek writers agree. They alſo concur in opinion that Χοιραδες being derived from Χοιρος *porcus*, a hog, the diſeaſe took its name from the glands in the neck of ſwine being ſubject to this complaint: the Latins afterwards introduced the word *ſcrofula*, or *ſcrophula*, from *ſcrofa*, upon the ſame principle; though ſome refer it to the multiplicity of their increaſe, like the offspring of a ſow; and hence the words *ſtrumæ* and *ſcrofula* have long ſince been uſed as ſynonymous terms.

Strumæ; and ſcrofula ſynonymous terms.

This affection ſeems to be a diſeaſe *ſui generis*; and I believe all will agree with Celſus*, that it is extremely troubleſome, of long continuance, and, whether cured by the knife or medicaments, is apt to break out again near the old ſcars. When I have met with it in the

A diſeaſe ſui generis.

* Loc. cit.

breaſt

In women's breasts.

breast of women, I have found it more troublesome, after excision, than in any other external part; one gland sprouting up after another for a tedious length of time, even when they have apparently all been removed, so as to try the patience and skill of the assistant. All writers, from the days of Hippocrates, are of opinion that this disease forms those tubercles in the lungs which occasion pulmonary consumptions; those swellings of the mesenteric glands which bring on the atrophy; and it appears to be hereditary, of which I know no more certain criterion than its lying dormant, sometimes for one generation, and appearing again in another; a fact abundantly demonstrated by natural history.

Hereditary.

All swelled glands not strumous.

But we must not mistake enlarged glands in the necks of young people, for the disease in question; those have always been distinguished from *strumæ* by

the beſt writers; they are commonly ſingle or detached from each other, often globular, though ſome flat and ſpreading, moſtly if not always looſe; and to the beſt of my remembrance, they feel perfectly ſmooth. Whereas *ſtrumæ* are knotty, form a chain of glands, or as Muſitanus* expreſſes it, they hang like grapes depending from the ſame branch, which ſeems to characterize the diſeaſe; and inſtead of being looſe, they are thoroughly connected with the neighbouring parts. Nor are ſwelled glands, which ariſe from any cauſe except a ſtrumoſe habit, to be numbered in that claſs, though they appear rather rough, flat, and ſpreading; for various cachexies, as we ſhall have occaſion to ſhew, will bring on theſe ſymptoms; and therefore to be certain of the diſeaſe, it ſhould be traced.

Deſcribed.

* Chirurgia, &c. cap. 44.

Inflamed eyes, chapped lips, and swelled noſtrils, not characteriſtics of the diſeaſe.

But ſore inflamed eyes, accompanied with paſtey face, ſwelled or chapped lips, and ſwelled noſtrils, have been looked upon to be characteriſtics of this diſeaſe; and even ſome of our modern noſologiſts have adopted this definition; but ſurely without proper authority, for I believe no writer is to be met with able to ſupport ſuch an opinion. Vogellius ſays, *ſcrophula tumor glandularum, colli et meſenterii, indolens, obduratus*; and the moſt accurate Linæus, *ſtruma*; *glandula infarcta*; *nodus indolens, ſolidiuſculus preſſione obtuſe ſentiens*" Which perfectly agrees with Hippocrates, and thoſe writers who have thoroughly examined the ſubject. It is true, ſwelled chapped lips, ſwelled noſtrils, ſore eyes, &c. ſometimes accompany *ſtrumæ*; but theſe do not conſtitute any part of the diſeaſe, becauſe they are common to other affections; and becauſe the *ſtruma* very frequently appears

pears without any of them. Wherefore we ought firſt to be ſure of the habit being ſtrumous, before we are at liberty to ſuſpect ſuch a *diatheſis* preſent from the appearance of thoſe ſymptoms.

The primary cauſe of this diſeaſe is one of thoſe ſecrets in nature that has not yet been unveiled; but it is ſaid to be an affection of the lymphatics. It certainly is of the lymphatic glands; and if it be hereditary, it muſt be owing to ſtructure; and, like the gout, may be increaſed by an exiſting cauſe, which may render theſe ſtrainers perfectly incapable of performing their office, or the fluids incapable of paſſing through them. Some will have it that the glands are relaxed; but I rather apprehend there is ſome deficiency in their form or nature: but upon opening and examining ſome that were taken out, I could only diſcover that they were diſtended with viſcid lymph.

Owing to form or ſtructure.

Perhaps their firſt appearance, which is rather uncertain, may be occaſioned by a revolution in the habit about five or ſix years of age; and it is aſſerted that at puberty this diſeaſe ſometimes entirely wears off without medical aſſiſtance. I believe it may now and then become dormant, but to eradicate it, in my opinion, nature muſt be changed: it is liable to return, and, as far as I can judge, thoſe ſwellings of the glands which entirely diſappear, are not *ſtrumæ*, but another affection of the glandular ſyſtem; of which we ſhall hereafter have occaſion to take notice.

This diſeaſe may be mitigated.

Theſe ideas ſeem to be verified by ſucceſs in practice; for I believe we ſeldom do more than mitigate this malady; and by proper treatment it is often in our power to render life comfortable. To remove the glands by an operation, if it could take place, would be the moſt expeditious

expeditious method; but they are so thoroughly connected with the neighbouring parts, that an advantageous exciſion can ſeldom be effected with ſafety and advantage, unleſs they are only few in number, and ſituated at a proper diſtance from the principal arteries. Hence the more common method of attempting to diſcuſs the tumors muſt generally be purſued.

Exciſion of the glands, when to be attempted.

For this purpoſe, from what I have been able to learn, thoſe remedies which remove obſtruction, render as much as poſſible the glands pervious, make a derivation from the part, and ſtrengthen the ſyſtem at the ſame time, are moſt to be depended upon: but theſe are much more ſucceſsful when the diſeaſe is attacked in the beginning, before the obſtructions are confirmed, or the glands ſpoiled; and then ſome effects may be expected from their uſe. Clearing the

Internal remedies.

primæ viæ with ſmall doſes of calomel, aſſiſted with an appoſite purge, lays the ground work of our proceedings. I have ſeen large indurated glands ſubſide under the uſe of the *ſal ſodæ*, and the application of a volatile plaſter. The common aſſiſtant, burnt ſponge, certainly reduces the bronchocele; which ſhews that it acts upon the glands. What is therefore expected from calcined marine vegetables is reaſonable; and I have ſeen the practice of giving ſmall doſes of Epſom, or Glauber's ſalt, daily, diſſolved in a tumbler of water, ſo as to procure at leaſt two ſtools a day, ſerviceable in reducing theſe tumors. It muſt not however be forgotten, that there is an ebbing and flowing in this malady, which moſtly happens in ſpring and autumn; and I have often ſeen the glands when enraged by this diſeaſe, ſubſide in a little time,

time, if not irritated by external or internal remedies.

Dr. John Fordyce * recommends the Peruvian bark as a resolvent and discutient in the *scrophula* or the *morbi glandularum*; Dr. Fothergill † soon after wrote an ingenious paper upon the subject, and this was followed by another from Dr. Bond ‡, to confirm the practice: since which, writers have looked upon it as a medicine of the most powerful influence in the cure of this disease. Bark.

I have attended to its real effects however in *strumæ*, and though it may assist general strength, I have not found it adequate to my wishes in reducing these tumors, or even in abating very slight strumous symptoms: and imagine, if we were to neglect entirely in its favour the method of cure, which may be selected

* Lond. Med. Ob. and Inq. vol. i. † Med. Ob. and Inq. Lon. vol. i. ‡ Ib. vol. ii.

from thoſe who have written experimentally, we ſhould be laying aſide, in many inſtances, the intentions which ought to be purſued. We will therefore examine the ground upon which this opinion about the bark was founded.

Its effects in the ſcrophula examined.

The firſt caſe we meet with in Dr. Fordyce's paper, of bark being ſucceſsful after calomel, was in a conſiderable ſwelling of great part of the parotid gland, as well as the glands on each ſide of the neck, in a young lady, ſixteen years of age, after inoculation; but though they reſembled ſtrumous glands, yet there might be a material difference in the two diſeaſes, as will preſently appear. Her health was ultimately eſtabliſhed by that change in the conſtitution ſhe afterwards underwent; and in the ſubjoining poſtſcript we leave the reader to judge whether this can be admitted, as a caſe in point,

point, to ſhew the efficacy of the bark in ſtrumous caſes.

The ſecond caſe of hard tumors in the breaſt, and under the *axilla*, with ſore noſtrils, and thickened lips, appeared firſt in a woman after lying-in, when her milk was going off; ſome of them being the reliques of former ſwellings, from the ſame cauſe: and it muſt be obſerved, that the bark was not given till after the calomel, antimony, the woods, gum guaiacum, and Neville Holt water had been tried, of which we ſhall take notice in our general remark; though it is not foreign to our purpoſe, to call to mind in this place, that we have no account of *ſtrumæ* appearing before theſe ſymptoms; and a doubt ariſes whether they were ſtrumous or not *.

The third is a clear inſtance of the bark reſolving a hard ſwelling, formed

* See Poſtſcript.

ſlowly

ſlowly under the left ear, and along that ſide of the lower jaw, in a young puny girl, four years old; if the *unguentum ad ſtrumas Luſitani*, which was applied, afforded no aſſiſtance. But topical applications have often powerful effects upon ſwelled glands; and if none were expected from this ointment, why was it applied? I very lately had an inſtance in a young woman of relaxed debilitated habit, where the glands on one ſide of the neck ſwelled greatly and much reſembled *ſtrumæ*; but they aroſe ſeemingly from a tardineſs of circulation through the gland, becauſe they entirely diſappeared in a fortnight from the application of the *emplaſtrum ſtictícum* alone; whereas, had the bark been given, the effects might have been aſcribed to the wrong remedy. Nor can we ever be certain of the effects of any medicine when auxiliaries are employed. The remainder of his caſes are not ap-

poſite

poſite to the diſeaſe in queſtion †: but though we are not convinced from any thing advanced, that the bark cures *ſtrumæ*; yet we join Dr. Fordyce in opinion, "that in tumified glands, where "the habit happens to be feeble, and the "circulation weak, from conſtitution or "accident, bark is a moſt efficacious "medicine ‡."

The firſt part of Doctor Fothergill's paper is to prove the power of the bark in the ſcrophulous ophthalmy; of which we ſhall take notice when we reſume our ſubject, after examining thoſe on the ſame ſubject by Dr. Bond. However, we may here obſerve, that his reaſoning deſerves cloſe attention, as it may be uſeful for various purpoſes; and that there cannot be clearer evidence againſt the power of the bark in diſcuſſing ſtrumous glands, than the facts he produces; for in an

† See Poſtſcript. ‡ See Poſtſcript.

indurated

indurated parotid gland, from an hereditary ſcrophulous taint, no conſiderable benefit accrued. It ſeemed to ſtop the progreſs of the diſtemper, but did not cure it; nor did the bark, a year afterwards, afford relief, when the chin and upper lip began to be covered with a thick yellow ſcab, moiſt and itching; but a courſe of deobſtruents, ſea-bathing, and the uſe of Scarborough-water, ſubdued theſe ſymptoms. He apprehends the bark put a ſtop to the increaſe of the tumor, and rather ſoftened it, but this was all. He met with *many other caſes* (he ſays), in which it had the like effects, reſtored a better ſtate of health in various reſpects, and laid a proper foundation to proceed upon, in attempting a cure by *other methods*; but he did not find that ſucceſs from it in ſcrophulous ulcers, as might be expected: from which honeſt account of facts, it ſeems pretty evident

that

that we are not to expect assistance from its resolving, but from its invigorating property.

In Dr. Bond's account of a lady, with several clusters of scrophulous tumors in the neck, it appears that the cure had been attempted by many, and severe, courses of medicines; and she was so reduced by loss of appetite and a slow fever, that she could scarcely walk across the chamber. Some of the tumors, which were at least two inches in diameter, underwent a partial suppuration, and discharged an ichorous matter from fistulous ulcers. They were so numerous, large, and hard, and her constitution in general so shattered, that he could not flatter himself with any rational prospect of success from medicine; yet she was perfectly cured by the application of a discutient fomentation, the *emp. e sapone*, and the use of the bark. In the other

of

of a young girl, with a large number of ſcrophulous tumors, which had gradually increaſed for many years, a ſlight ſalivation for ſeveral weeks was firſt purſued, which rather increaſed than leſſened the ſwellings; but they were afterwards almoſt diſſolved (reduced I ſuppoſe) by powdered bark and ſteel. Nor does it appear that any medicine could have been better deviſed in both inſtances, to reſtore ſtrength and vigour, ſo neceſſary after the proceſs undergone. But it is reaſonable to conclude, that in every one of theſe caſes, in which a courſe of deobſtruents took place, they were preparatory to the uſe of the bark; and favoured its ſucceſs, which might not have happened without their aſſiſtance; otherwiſe, how came it to paſs, that Dr. Fothergill could not remove ſtrumous glands by bark alone?

General remark.

The *ſtruma*, it is well known, is ſometimes accompanied with ſore and inflamed eyes;

eyes; and I have tried, in ſtrumous ophthalmias, when the edges of the lids were only a little red, with a ſlight inflammation on the conjunctiva, whether the bark was to be depended upon in ſubduing the diſeaſe in this mild ſtate; but have always found auxiliaries neceſſary. And, from the whole, I have long concluded, and found it true by experience, that when in infeebled, relaxed habits, bark is given in ſtrumous caſes, deobſtruents ought to be joined; and by uniting it with *ſal ſodæ*, or regenerated tartar, a very powerful invigorating deobſtruent is produced. To the glands, when ſwelled and uninflamed, a volatile plaſter may be applied; mercurial ointment rubbed about the part does no ſervice; but iſſues are certainly employed with advantage.

To ſome of theſe methods we are obliged to have recourſe in inland counties, to diſperſe theſe tumors; and by continuing Sea-water

continuing them a due time, we now and then leſſen the diſeaſe. But in places adjoining to the ſea, ſea-water is a remedy on which they have great dependence in ſcouring the glands, and bracing the fibres. I have ſent ſome thither early in this diſeaſe, who, from drinking the water, and bathing in it, have found ſome benefit by having their ſwellings reduced. But I refer to Ruſſel on Sea-water, who has written a practical book, with many precepts and cautions, which ought to be known to thoſe who are not already acquainted with them; and by collecting all the caſes in point into one view, they will be found uſeful. The *quercus marina*, which they alſo uſe externally, as a diſcutient, we have not, on account of diſtance, an opportunity of trying; and we can only, therefore, get information about it from books, which at beſt only leads to the knowledge required.

However,

However, with the utmoſt attention, theſe glands will ſometimes undergo a partial ſuppuration, yielding a matter peculiar to themſelves; and a tedious buſineſs is generally the conſequence, not only from the obſtinacy of diſeaſed glands, but from there being frequently a ſucceſſion of gatherings for a great length of time. When we ſee this is likely to happen, I uſually apply a gum plaſter till the tumor breaks, or is fit to be opened. If the diſſolution ſeems to be tolerably complete, and the tumors are ſeated in the necks of women, I paſs a ſmall ſeton; otherwiſe I open from one end to the other, and follow the practice of applying dry precipitate to deſtroy the remainder of the gland, or Mr. Wathen's cauſtic, compoſed of arſenic and antimony, which in general is a better remedy: and when the gland is removed, the Suppuration.

ulcer will heal more readily under cold water than any other dreſſing.

Diet. But in hereditary diſeaſes, more dependance is to be had upon diet than medicine; and it is well known, that health may be maintained, and the whole conſtitution changed, by a proper choice of aliment: whence it has been affirmed, that by diet alone, all the intentions of medicine may be anſwered.

Medicines not to be diſcarded. But though it muſt be allowed, that food is in general, more agreeable to the ſtomach than medicines, and that a proper diet is a principal matter in the cure of all diſeaſes; yet medicines are not to be entirely diſcarded: it frequently happens, that the patient has not any appetite, and where the appetite is bad, the forcing down food can do but very little ſervice; becauſe it will not be properly digeſted. Under ſuch circumſtances, we ſhould firſt attempt to bring on an inclination

inclination for food, and by ſtrengthening the powers of digeſtion we lay the foundation of our proceedings; for if digeſtion is well performed, food does its proper office, and health is the conſequence.

What kind neceſſary to aſſiſt food.

For this purpoſe, we ſhould employ means that are gentle in their effects; for weak ſtomachs cannot bear rough uſage. A few grains of calomel and a little rhubarb, or the like, will often be neceſſary to clear the *primæ viæ* before any other medicine is given; and when we remember, that one drop of laudanum will often leſſen the irritability of the whole body, we have reaſon to expect advantage from ſmall doſes of all kind of medicines which act upon the nervous ſyſtem. I can aver, I have ſeen better effects from light warm bitters, than from ſtronger doſes, eſpecially when the rule of Celſus has been obſerved, of mix-

ing with them an opening medicine. A cold infuſion of the bark, or chamomile flowers, in ſmall quantity, with ſome bitter cordial tincture made with ſpirits, and a few drops of elixir aloes, will commonly be ſufficient, without loading, or being diſagreeable to the ſtomach, to excite and keep up the appetite*; and having accompliſhed this point, food properly adjuſted will do the reſt.

Low diet conſidered.

But of late there has been an idle theory ſuggeſted contrary to the cleareſt evidence †, that the digeſtion in the ſtomach is performed by a fever; which does not only neglect facts, but it ſuppoſes nature to take præternatural methods to perform her proceſſes in the

* Upon particular occaſions may be added a few drops of ſteel wine, elixir of vitriol, regenerated tartar, &c. as may ſuit with the preſcriber's intention.

† Reaumur long ſince proved, that food was digeſted by a menſtruum; which has ſince been confirmed by Mr. Hunter, Spallanzani, and others.

animal

animal œconomy: accordingly I have ſeen ſyſtematic practitioners keep their patients upon ſtarving diet, even in chronic complaints, to avoid bringing on a fever in the ſtomach, and its conſequences! I am clear in opinion, that many have been brought into fatal diſeaſes by this ſpeculative nonſenſe: we cannot, therefore, do better than reprobate a doctrine ſo replete with miſchief; and as facts make a ſtronger impreſſion than declamation, we ſhall ſhew the effects of ſuch treatment, even upon perſons free from illneſs.

A lady of good conſtitution, about thirty years of age, being ſeized with a fever, ſent for a phyſician, who happened to be from home. She therefore took a doſe of Dr. James's powder, which operated ſmartly, and next day ſhe found herſelf entirely well. Unluckily, however, the Doctor called to ſee her upon

his return, and adviſed her to abſtain from almoſt all kinds of food, aſſuring her ſhe would be ill again if ſhe exceeded the rules he preſcribed; and putting her upon extreme low diet, her ſtomach ſoon became weak, her appetite left her, and ſhe was ill in earneſt.

From this time he was aſſiduous in his viſits, and purſuing his theory with vigour, the patient daily grew worſe upon his hands; wherefore at about three months end, he adviſed her to go to Bath. She ſet out propped up in a chaiſe, but it was impoſſible for her to proceed many miles, though moſt gently driven; and being lodged in a relation's houſe, I was deſired to ſee her. In the whole courſe of my life, I never ſaw any living perſon approach ſo near to the ſtate of a ſkeleton; her fleſh being almoſt gone, ſhe could not ſtand, her pulſe could ſcarcely be felt, her eyes were ſunk, ſhe was troubled

with

with a diarrhœa, and ſeemed to be upon the brink of the grave.

Upon talking over the whole proceedings, it was very evident ſhe was almoſt ſtarved to death, and food was recommended; but the aſſiduity and care of her former phyſician, had made ſo great an impreſſion on her mind, that ſhe could not at firſt be perſuaded, to enter upon a plan againſt which he had ſo often preached: and when I recommended wine, ſhe ſeemed to have very little faith in my judgment. However, as her relations joined me in opinion, we gradually brought the patient to be ruled; and I began by preſcribing the compound powder of crabs claws, in a ſpoonful of ſmall cinnamon-water; but the firſt doſe, inſtead of mitigating, increaſed her purging very much, and ſhe therefore left off all kind of medicine, of which ſhe had long been tired.

Nor did ſolid food agree better with her ſtomach. From a long diſuſe of any thing of this kind, it ſeemingly irritated, and run through the bowels with great rapidity. However, by perſevering, beef tea, gravy, the fleſh of cray-fiſh, lobſter, &c. in ſmall quantities, were in time taken without inconvenience; and ſhe ſoon began to think a few tea-ſpoonfuls of port, with ſpice boiled in it, agreeable. Milk would not agree with her; but by gradually proceeding, ſhe could in time take more wine, and different kinds of food in greater quantities, which reſtored her to health.

Rarely indication for it in the ſtruma.

To what extent the ſtarving regimen may be carried by hypothetical men, is hard to ſay; but there is rarely indication for it in the preſent inſtance; the fibres in general being weak and relaxed, and diet, which leſſens viſcidity, and gives vigour to the ſolids, ſeems to be moſt

moſt proper, if mild, and incapable of producing groſs humours. The patient ſhould abſtain from ſalted meats, and much fat, and live upon the fleſh of grown animals, of light and eaſy digeſtion. Veniſon and game, in moderate quantities, ſeem to be proper food, on account of the active juices their fleſh contains. Fiſh, which ſome adviſe, may be omitted except freſh herrings, mackarel, lobſters cray-fiſh, and the like. Milk in debilitated habits is proper; but pork ſhould be avoided as affording groſs juice. I ſee no objection to the uſe of well-brewed medicated malt liquor. Wine alſo, under proper regulations, where the conſtitution requires it, will not only be a pleaſant beverage, but a good medicine. Air and exerciſe ſhould not be omitted, and the cold bath, I believe, is ſerviceable. But all theſe remedies muſt be uſed moderately, and in ſome conſtitutions abſte-

miouſneſs

miouſneſs muſt be obſerved, for there is no laying down a general rule: a plethoric patient requiring reduction *et vice verſa*; and though we have drawn the ſtrait line, yet ſuch additions and alterations muſt occaſionally be made, as particular circumſtances require, and which it is impoſſible to ſpecify.

POST.

POSTSCRIPT.

ON SWELLED OR ENLARGED GLANDS WHICH ARE NOT STRUMOUS.

IT it is happy, however, that there are ſeveral kinds of ſwellings of the glands which have been called ſcrophulous, that belong to another claſs of diſeaſes; and we have ſet this Poſtcript apart for the purpoſe of diſtinguiſhing one from the other. Notwithſtanding it has been lately aſſerted, "that "there is not one family in twenty in "this country, conſiſting of ſeveral "children, where this complaint has not "in ſome form, and at ſome period, made "its appearance;" yet we believe the true *ſtruma* is leſs common than has been imagined, and never happens but in families who are ſubject to this diſeaſe, and

Strumæ only in ſtrumous families.

that

that theſe are fewer in number than has been apprehended. Thoſe of the contrary opinion ſeem to think every ſwelled gland to be a ſtrumous affection; for they ſay the *ſtruma* ariſes from the ſmall-pox, meaſles, hooping-cough, fevers of all kinds, moiſt and low ſituations, the obſtruction of any natural or accuſtomed evacuation, extreme cold, lacerated wounds, &c. And might they not with equal propriety have added, that it is brought on by cancers in the lips, gum-boils *, and a gonorrhœa, becauſe theſe alſo occaſion ſwellings in the neighbouring glands? Some of theſe indeed may be occaſional, or exciting cauſes to an increaſe of the ſwelling of the glands in ſtrumous habits; yet if this diatheſis does not previouſly exiſt, ſubſequent ſwellings that may happen to the glands

Swelled glands from abſorption not *ſtrumæ*.

* See Hewſon on the Lymphatic Syſtem.

cannot

cannot with any ſort of propriety be called the *ſtruma*. It is only the reliques of the diſeaſe which has gone before; nor did I ever know the evil brought on by any of the above cauſes, without the glands having before ſhewn a ſtrumous affection.

I have repeatedly ſeen ſwelled glands reſembling the *ſtruma*, accompanied with inflamed eyes, after the ſmall-pox, and meaſles; but I am convinced by their diſperſion, or by their ſuppurating, and by the habit getting entirely clear of the diſeaſe, that they were not ſcrophulous. We have given an inſtance where ſwelled glands on the ſide of the neck, reſembling the *ſtruma*, were at once diſperſed by a gum plaſter. A woman had ſeveral enlarged glands on each ſide the neck, in conſequence of ſickneſs, occaſioned by ſuckling; but upon weaning the child and taking the bark, ſhe recovered. Nor is this an uncommon circumſtance;

The habit getting clear of the diſeaſe, a full proof of its not being the ſtruma.

as

as I have had many opportunities of obſerving. An unmarried woman, about thirty years of age, rather of a relaxed habit, upon taking cold, occaſioned a uterine obſtruction; a ſwelling of the glands on one ſide of her neck, to the ſize of a ſwan's egg, followed; but upon taking *ſal ſodæ*, and wearing a volatile plaſter, the obſtruction was removed, and the tumor ſubſided. A young gentleman, about ten years of age, lying one night with the curtains open againſt a door, from which he received a ſtream of cold air upon the ſide of his neck, and throat, a ſwelling of conſiderable ſize appeared upon the part next morning; but though the ſwelling of the ſkin and cellular membrane diſappeared by the remedies that were applied, yet ſeveral glands that were alſo affected, remained in *ſtatu quo*, and in time ſome of them grew to the ſize of a pigeon's egg, and

ſuppurated.

ſuppurated. In this ſtate I firſt ſaw him, and conſidering it as a local diſeaſe, he was cured by topical applications alone. The ſame effects may take place from any other diſeaſe, which occaſions a ſlow circulation through the glands. It is common in large manufacturing towns, eſpecially in the iron trade; and were any of them to gather and break, and become obſtinate, as is common to glandular tumors, I know of no greater ignorance than calling the diſeaſe the evil. Nor is this the only inconvenience to ſociety; for by claſſing diſeaſes together that have no alliance, confuſion in practice has ariſen, and will conſtantly ariſe.

We have already obſerved, that the entire removal of the evil, though it may be mitigated, is not to be expected; but the ſwelled glands from other cauſes readily admit of a cure: in the one inſtance,

Difference betwixt the ſtruma and ſwelled glands, in what it conſiſts.

ſtance, the diſeaſe is originally in the make or ſtructure of the glandular ſyſtem, and ſubject to ſhew itſelf day after day: in the other, the glands are only affected by an adventitious cauſe that gives way to proper remedies. Hence we ſee how it comes to paſs, that ſwelled glands in debilitated habits are cured by the bark; and whenever we cannot trace a ſtrumous taint, and the diſeaſe is perfectly conquered, we may conclude it was not ſcrophulous. Many of thoſe inſtances Wiſeman has given us, I apprehend, were only enlarged or obſtructed glands; becauſe the cure was ſo perfectly accompliſhed, chiefly by topical remedies: and it will be evident, that he was not very exact in his diſtinctions, when we call to mind that he copied from Parey, &c. the *meliceris atheroma* and *ſteaoma* into his account of the evil; it being

being impoſſible for a greater difference to exiſt than betwixt incyſted tumors and *ſtrumæ*.

Looſe ſmooth enlarged glands have above been ſpoken of, and in addition we ſhall now obſerve, that the changes the glandular ſyſtem undergoes in youth*, occaſion theſe ſwellings which have undoubtedly been taken for *ſtrumæ*; and given riſe to an opinion, that this diſeaſe diſappears often, without any medical aſſiſtance. Whereas it is not the evil which is removed; but theſe enlarged glands ſubſide from the reſolution the conſtitution undergoes at the time of puberty. They moſtly, like warts in young people, vaniſh of their own accord, provided they are left unnoticed, till this change takes place; otherwiſe, if topics are employed, and any inflammation produced, they are prevented

It is not the evil that appears in young people but other ſwelled glands.

* See Ruſſel on the Glands.

from diſappearing at the time nature is working a change for this purpoſe.

When to be removed by exciſion.

Sometimes indeed they continue after this alteration in the conſtitution happens, and they may then be ſafely removed by dividing the ſkin and capſula in which they are incloſed, by a ſimple inciſion the whole length of the tumor, and then preſſing out the gland, which I have frequently done with the utmoſt eaſe. But when the cyſt happens to be thick, after dividing the ſkin, the upper part of it may be taken away by the ſame operation that ſets the gland at liberty. The wound may be cured by the firſt intention, nor need we be under any apprehenſions of the tumor returning like the *meliceris*, when the cyſt is left behind; for the gland being entirely removed, and incapable of being renewed like the other, by ſecretion, the parts, if they are carefully laid down, and kept out of motion,

tion, ſoon unite, and the cure is complete. There is no danger of dividing any of the branches of the carotid artery by this operation, nor indeed does any hæmorrhage enſue. Whereas when the tumor is diſſected out, the patient undergoes much more pain, and much more hazard, as I have experienced where I could not preſs them out, from their having been inflamed by attempts to bring about a cure. I have met with enlarged glands of this ſort in women's breaſts, increaſed to a very conſiderable ſize. Upon dividing the cellular membrane, and capſula, they ſlipped out as clean as a kidney, and the wound admits of the cure juſt adviſed.

In women's breaſts.

Children, and young people have not unfrequently a breaking out in the hind part of their head, which diſcharges a thin ichor; and unleſs kept very clean, a ſwelling of the glands on each ſide appears,

Swelling of the glands in the neck from an eruption on the hind part of the head.

pears, very much reſembling the *ſtruma*; but upon cutting off the hair, waſhing the parts with milk, occaſionally applying a mild digeſtive, giving ſmall doſes of calomel, joined with a gentle purge, together with ſuch other alteratives as the conſtitution requires, and abſtaining from all kind of food that may create acrimony; the patient in no great length of time gets perfectly clear of the diſeaſe and its conſequences. In leucophlegmatic habits alſo, eſpecially in young women, attended with a *chloroſis*, a flux of humours ſometimes ſhews itſelf in the head and face, with ſwelled inflamed ſore eyes, diſcharging great quantities of ichor, together with ſwelled noſtrils, ſwelled lips, glandular ſwellings in the neck; conſtituting a train of ſymptoms, that by modern writers have been called ſcrophulous, but which I apprehend are owing to a depravity in the humours,

Leucophlegmatic habits.

humours, and to abſorption of part of the fluids, obſtructed about the head; becauſe, upon the diſorder being removed, and puberty elapſed, it does not return. Beſides, one kind of chopped and ſwelled lip, which has alſo been ſuppoſed to be ſtrumous, is certainly owing to local relaxation; becauſe I have frequently cured it with linen cloths wet in cold water, aſſiſted with bandage. It is ſmooth, unattended with any humour, and the part has only the appearance of being relaxed.

Remark about ſore and inflamed eyes.

After all, perhaps the inflamed eyes, &c. Dr. Fothergill cured with the bark, might be a diſeaſe of this kind; as there is ſome doubt from his faithful narrative, whether it was ſtrumous or not. Otherwiſe, how came it to paſs that the bark was not equally effectual in ſcrofulous glands, and ſcrofulous ulcers, as in what he ſuppoſed to be a ſcrofulous oph-

thalmy; unleſs they were different diſorders? It is well known that in inflamed eyes in relaxed habits, the bark has long been known to be uſeful; but when attended with a flux of humours, his method of joining opening medicines, and giving a grain of calomel every other night, rendered it a more powerful remedy; for though he ſeemed not to have any dependence on this laſt aſſiſtant, yet I apprehend it was a principal part of his preſcription *; and that either calomel, or ſmall doſes of quickſilver, ſhould always be joined with the bark in ſimilar inſtances. Whereas in the *ſtruma*, mercury affords no relief, except when given to purge.

Swelled glands from feebleneſs of conſtitution.

In ſwelled glands, from feebleneſs of conſtitution, it is only neceſſary to clear the *primæ viæ*, before we enter upon a

* See Mercury in Venereal Ulcer, Lond. Med. Journ. part i. fo. 86.

courſe

courſe of the bark: but where a flux of humours prevails about the head and eyes, after purging with calomel, &c. it will be farther neceſſary to unload the habit, by increaſing the ſecretion of urine; and for this purpoſe diuretic ſalts muſt be given. But there is no evacuation equal to that made by a ſeton in the neck; it ſeemingly does more ſervice than all the other remedies put together: nor does it interfere with the bark, when the relaxed diſpoſition of the patient requires its uſe.

A young lady about fifteen years of age, was troubled with ſwelled lips, her noſtrils and glands in the neck were in the ſame ſituation. She was blind from the ſwelling and inflammation of her eyes, which diſcharged a corroſive ichor that excoriated her cheeks; a torrent of humours flowed from behind her ears, and her whole face partook of the violence of the diſeaſe. She was pale and relaxed,

and to the beſt of my remembrance, I never ſaw what has been called a more violent *ſtrumous ophthalmy*. She was purged with calomel, and Glauber's ſalt repeatedly. *Sal ſodæ* was given her, laudanum was occaſionally dropt into the eyes *, which gave eaſe, and probably leſſened the irritability of the parts, and the vegeto-mineral water of Goulard was applied; cold water, however, proved a better lotion. But though theſe rather leſſened the complaint, they did not remove it, till a ſeton was put in her neck, and recourſe had to ſimple lime-water, of which ſhe drank half a pint, with a little milk, twice a day: this treatment entirely cured her, and prevented the neceſſity of uſing the bark, which was intended to have been given; but the ſucceſs I repeatedly have had by this method in ſimilar inſtances, induced me not to

* See Ophthalmy, vol. i.

overlook

overlook it on the preſent occaſion. Nevertheleſs, after the parts are unloaded in feeble relaxed habits, the bark may be of great ſervice in reſtoring ſtrength and vigor.

CHAP.

CHAP. XIX.

ON THE DYSHYMENY,

(A δυς, male, and ὑμην, membrana, diſeaſed membrane) or ſero-purulent Abſceſs.

Diſtinct from a diſeaſe of the glands.

ABSCESSES in which an affection of the glands, except from abſorption, make no part of the complaint, have alſo been called ſcrofulous; and by thus viewing two different diſeaſes which require oppoſite treatment in the ſame light, even very able modern writers have embarraſſed their ſubject, and perplexed the method of cure they have preſcribed. Hence they differ in their accounts about the effects of medicines, in the cure of the ſcrofula, from the ſame remedies having been applied in a variety of diſeaſes under this appellation,

But not making this diſtinction, has embarraſſed the ſubject.

lation, in all of which they could not poſſibly be attended with ſucceſs.

The diſeaſe we allude to, is that which occaſions thoſe ſero-purulent abſceſſes that ſhew themſelves in an affection of the membranes, and form thoſe cold indolent tumors which diſcharge either lymph, a kind of curds and whey, or poor thin matter, ſo well known under the name of ſcrofulous abſceſſes, to the faculty. It is a diſeaſe which cannot be claſſed with any other, and ſhould be treated with its own proper remedies. Deſcribed.

Wiſeman * very plainly ſaw the neceſſity of making a diſtinction betwixt an affection of the glands and this complaint, but was incapable of defining the diſeaſe; and fixing upon an acidity in the ſerum of the blood, for the ſpecific difference, no way enlightened this part of his ſubject; and we muſt confeſs, we Wiſeman attempted a diſtinction.

* Book iv. chap. ii.

know

know not how to point out the primary cauſe of this complaint, unleſs we call in the aid of ſimilar affections, with whoſe riſe we are well acquainted. For inſtance, before preparation for inoculation was well underſtood, I have known large abſceſſes, eſpecially about the joints, exactly reſembling thoſe which have been called ſcrofulous, in which the membrane was firſt affected, in conſequence of low diet, much purging, a free uſe of the lancet, and the progreſs of the diſeaſe, ſo as to weaken the patient below his uſual ſtandard of health. I have alſo obſerved ſimilar abſceſſes to follow, after ſome time, the effloreſſences ariſing from an inflammation of the membranes *; and we have ſeen, that taking cold, and injuring the membranes †, has brought on a ſomewhat ſimilar kind of malady; from all which we would infer, that

Cauſe pointed out.

* See Eryſip. vol. i. † See Phleg. Rheu. vol. i.

ſome

ſome kind of weakneſs prevails in the ſyſtem, and is the cauſe of the diſeaſe in queſtion.

Debility, however, in the preſent inſtance, is different from weakneſs brought on by the cauſes juſt aſſigned, and ſeems to be owing to an innate morbid diſpoſition of the conſtitution: for though the membranes firſt ſhew the ſymptoms of the complaint, yet the muſcular fibres are alſo in a different ſtate from thoſe in a healthy ſubject; and when expoſed, there is an appearance not to be met with in any other diſeaſe. There are evident marks of want of energy in them, they are emaciated, pale, and ſlender. Nor is this ſtate to be altered by art; new granulations cannot be made to ariſe, nor can the matter be changed, either by diet or medicines: but the ſubſequent ulcer ſkins over in its own ſlow way, in oppoſition to every attempt

Appearances in the conſtitution.

attempt to aſſiſt nature. Whereas in thoſe abſceſſes, of which, from being ſimilar, we have ſpoken, medicines and diet have their proper effect; and we are hence led to conclude, that the untractableneſs is a criterion of the malady, and that it is owing to a particular affection of the whole body, which is unalterable.

Not always hereditary.

I have known it inherited from thoſe who have injured their conſtitution by repeated venereal complaints; and yet we have no reaſon to conclude that it is always hereditary; becauſe we meet with it in many inſtances, where we have no reaſon to apprehend its being brought on by family connection. It may be remembered, that the diſeaſe ſometimes firſt ſhews itſelf in the membranes covering the bones. I have ſeen the whole pericranium come away in ſloughs, and the perioſteum in the extremities is no uncommon ſeat of the malady. More generally

it

it begins in the membranes, covering the muſcles, and not uncommonly in ſeveral parts of the body at the ſame time. We have obſerved it not unfrequently ariſes in the loins, and ſometimes the membranes in the lungs are affected, and inſpiſſated mucus, or lymph, is ſpit up in coughing; and what is exceedingly curious, though an hectic may come on from an abſorption, the glands of the lungs are ſeldom affected: nor do either tubercles or ulcers appear upon diſſection, as I have had ſome opportunities of learning, even where great expectoration has happened. But coughs are not very common in this complaint, and I think the lungs in general are leſs affected than the other parts of the body. When the diſeaſe takes an unfavourable turn, it is rather owing to the extent, than the nature of the complaint; for moderate-ſized abſceſſes, externally ſeated, which do not affect

affect the joints; commonly get well by proper aſſiſtance in time, though an infirm ſtate of health not unfrequently remains.

It is well known, theſe abſceſſes often become full of matter, without inflammation, pain, or fever; are exceedingly ſlow in their progreſs, and nature is frequently ſo very remiſs, that we are obliged to let out the matter when the ſkin becomes thin, under a plaſter, compoſed of the warm gums. Large openings are long in healing, unleſs we can make the ſkin on each ſide the opening unite with the parts underneath; which may ſometimes be done. Pultices and ointments of all kinds do injury, and linen cloths, wet in cold water, after the matter is diſcharged, is the beſt remedy; as I have many years experienced, if the parts become warm ſoon after it is applied; otherwiſe, if a chilneſs ſucceeds, no

Large openings long in healing.

no advantage can be expected from its uſe, unleſs warmed by the addition of brandy.

Inſtead of deobſtruents, which have been found ſerviceable in the *ſtruma*, tonic remedies ſeem to be indicated; but bark produces no effect. I have tried lime-water, ſteel, and an hundred other things, with no better ſucceſs; for the ulcer goes on in its own way, the fibres continue in the ſtate deſcribed, and at laſt are ſkinned over by ſlow degrees, with a ſmooth cicatrix. The only internal medicine from which I have obſerved any remarkable effect, is Nevil Holt water; which I have ſeen do good ſervice, by reſtraining an exceſſive diſcharge in theſe ſores; to which I have added tincture of bark, in hope of mending the appetite; and ſtarch in ſmall cinnamon-water has anſwered my pur-

Medicines indicated.

poſe, when a diarrhæa has been troubleſome.

The ſwelling of the fingers, which has been called ſcrofulous, is the diſeaſe we have juſt deſcribed, and is cured in the ſame manner.

CHAP.

CHAP. XX.

ON ABSCESSES OF THE JOINTS.

COMMON purulent abſceſſes happening about the joints, require no particular treatment; and even when matter is formed within the joint itſelf, by accident, without any previous diſeaſe, there is no danger or inconvenience in cutting through the capſular ligament, and laying the whole open; on the contrary, a happy cure is a common conſequence. The membranes, if they are dreſſed properly *, ſend out new fleſh, the ulcer fills up, and heals in the uſual manner. A man had a wound made by accident, on the ſide of the knee, which lacerated the upper part of the

Common abſceſſes of the joints, how to be treated.

* See Wounds of the Membranes.

capſular ligament; great inflammation followed, and in ten days, or a fortnight's time, when I firſt ſaw him, the joint was full of matter. I directly ordered it to be laid open the whole length, and a cure followed without any trouble: nor is this the only inſtance of ſucceſs I have met with in ſimilar caſes. The *ſynovia* is no interruption, if it has an eaſy exit; and the ſubſequent ulcer readily heals. On the contrary, when the opening is ſmall, and the *ſynovia*, &c. is increaſed by irritation, is confined, and becomes acrid, the putrefaction of the membranes is extended; abſceſſes are not only formed in, but about the joint, and the heads of the bones ſometimes become carious. A man received a wound in the upper part of the knee, which penetrated the joint; but atfirſt giving very little diſturbance it was overlooked; nor indeed, except a little common plaſter, was any thing

thing done to the wound, till by riding about in the cold, a ſwelling and inflammation occaſioned the application of a turpentine digeſtive, and a white bread pultice. An abſceſs was the conſequence, and this being trifled with, the whole joint and the ligaments about it became diſeaſed and pulpy, in the manner of a white ſwelling. Nor was there any hope but from amputation. This was not ſubmitted to, and a great diſcharge, together with a colliquative fever, put an end to this poor man's ſufferings. But the advantages that often acrue in this caſe, from free openings, will be better underſtood when we treat of wounds of the joints.

Chronic abſceſs, or white ſwelling.

But the moſt common abſceſs of the joints, is that which accompanies the white ſwelling, occaſioned by the *dyſhymeny*, of which we treated in the laſt chapter. This has been ſaid to be a

ſcrofulous complaint; but we wiſh thoſe who entertain ſuch an opinion to reflect, that diſeaſes of the glands are one thing, and diſeaſes of the bones, or membranes and ligaments, another: that the diſeaſe of the membranes moſtly appears without any glandular affection; and whoever attends to the progreſs of the white ſwelling, ſimply conſidered, will find that the glands in general are not primarily affected; and that if any ſwell in the progreſs of the complaint, it is owing to abſorption. It may happen, and I know it does happen, that the *ſtruma* and *dyſhymeny* ſometimes affect the body at the ſame time; yet they are, and ought to be conſidered as diſtinct diſeaſes, the indications of cure are oppoſite, and in preſcribing, an eye muſt be had to each of them.

difference betwixt and ſcrofula.

Struma and dyſhymeny ſometimes joined.

The white ſwelling of the joints is ſo well deſcribed by *Wiſeman*, that we cannot

Well deſcribed by Wiſeman.

not avoid copying him; becauſe the moderns have not by any account they have given, rendered his deſcription uſeleſs. It is copied from nature, and will therefore always be new and worth notice. He ſays *, "ſwellings affecting the joints "are of two ſorts, both of them are made "by congeſtion, and increaſe gradually: "yet differ in that the one ariſeth exter- "nally upon the tendons, and between "them and the ſkin, or between them "and the bone, the other internally "within the bone itſelf. That which "ariſeth externally affecteth the liga- "ments, and tendons firſt, and ſome- "times relaxes them to ſuch a degree, "that the heads of the joints frequently "ſeparate from one another, and the "member emaciates and grows uſeleſs. "But for the moſt part, the humour "over-moiſtening the ligaments and ten-

* Book iv. chap. 4.

" dons, produces a weakneſs and unea-
" ſineſs in the joint, raiſing a tumor exter-
" nally; and in progreſs the membrane
" and bones are corroded by reaſon of the
" acidity * of the humour." But accurate as this account may be, ſo far as it goes, ſtill we do not confine the diſeaſe merely to an original affection of the membranes; as whatever occaſions a weakneſs of the ligaments, &c. about the joint, may produce the ſame effect. A man ſtrains his ancle violently, and the inflammation and pain being abated, he begins to walk about, while the parts are yet very weak; and neglecting the neceſſary cautions, to reſtore the limb to its uſual ſtate, a freſh ſwelling of the chronic kind gradually comes on; the membranes and ligaments through weakneſs are obſtructed, the diſſolution and caries above deſcribed are

* Change this word to acrimony, and it will then ſuit either ancient or modern theory.

the

the conſequence; and I am certain I have ſeen ſome legs loſt, through ſuch neglect and indiſcretion.

From diſſections in theſe inſtances, it appears, that the ligaments become much ſwoln, thickened, and even pulpy. The cellular membrane is loaded with a viſcid glairy lymph. Abſceſſes are formed in the neighbourhood of the joint, and the joint itſelf is often full of ſero-purulent matter. The cartilages are eroded, and the ends of the bones carious. In the beginning, provided the diſeaſe is local, comes on ſlowly without pain, and the parts within the capſular ligament are unaffected, the patient undergoes no great inconvenience, except from being incapable of uſing the limb. In length of time the joint becomes contracted, in conſequence of the weakneſs of the extenſor muſcles, and the aſcendency of thoſe which bend the limb. But to go on

Diſſections.

on regularly, we will purſue the diviſion Wiſeman has made, and firſt conſider the complaint when it is external, upon the tendons, &c. and betwixt them and the ſkin; obſerving that it is ſometimes local, and ſometimes general, as ſucceſs from amputation in the one inſtance, and the affection of ſeveral joints at the ſame time in the other, evince.

When external upon the tendons, &c.

Suppoſing then a mere weakneſs, and relaxation, in the membranes and ligaments of the elbow, wriſt, knee, or ancle, either from accident or diſeaſe, to occaſion a white ſwelling; the firſt

The ſymptoms.

ſymptom is a weakneſs in the part, without inflammation or much pain, which is ſoon followed by an incapacity of extending the limb in the uſual manner. The membranes, tendons, and ligaments now begin to thicken, and in time become pulpy; a fluctuation more or leſs of a gelatinous fluid, is afterwards perceptible

ceptible under the finger: the cellular membrane is gradually loaded with this kind of matter, a ſero-purulent abſceſs follows; and when unconnected with the inward part of the joint, we frequently have it in our power to remove this malady, which, if neglected, too often ends in the loſs of the limb, or life of the patient.

If the diſorder of the membranes is general, and ſeveral of the large joints are affected at the ſame time, the proſpect is diſcouraging; but it ſometimes, however, happens in youth, that even under theſe diſtreſſing circumſtances, art is capable of affording ſome relief. But our greateſt hope of ſucceſs is from the application of thoſe remedies which attenuate viſcid fluids, promote their abſorption, or ſuch as make a drain from the parts, and thoſe which afterwards ſtrengthen them; when the diſeaſe is local

Attempts to cure when moſt likely to be ſucceſsful.

Intentions of a cure.

local, in its infancy, before the membranes and ligaments are much thickened, and ſpoiled, and when ſeated externally in the manner deſcribed. But I have never known cupping, the fall of warm water upon the part, or rubbing with mercurial ointment, of any uſe; for whatever advantages may be ſuppoſed to ariſe from friction, the ointment by relaxing, overbalances its effects: and though mercury ſometimes proves a powerful deobſtruent in other diſeaſes, while the fluids are contained within their proper veſſels; yet when extravaſated, in the preſent, or any other inſtance, I believe it has no power of acting upon them to any good purpoſe, or of promoting their being abſorbed. Nor ſhould relaxing pultices, warm fomentations, or any thing which weakens, be applied, unleſs inflammation demands their uſe; as they increaſe the ſwelling, and thus manifeſtly

manifeſtly aggravate the malady: and I do really believe that by a free uſe of emollients, which co-operate with the diſeaſe, many a limb in this inſtance has been loſt.

Mr. Freke's method.

Mr. Freke * ſays he has cured many white ſwellings of the knee, and other joints, after they have been very large and painful, by bleeding, keeping the patient in bed, in a ſtate of perſpiration and apply the *emp. de ſapone*, warmed in winter, by the addition of *emp. e Cymino* round the joint: and I can eaſily conceive he might now and then be ſucceſsful, becauſe I have known recoveries follow the uſe of ſweating plaſter, in the beginning of the complaint; though I imagine in moſt caſes, he would have been equally ſucceſsful, had bleeding been omitted, as it is ſeldom indicated, and, by weakening tends to increaſe the com-

* Art. Heal. chap. viii. ſect. 2.

plaint.

Fixed rules cannot be laid down.

plaint. Nor can any fixed rule be laid down for the compoſition of ſuch kind of applications, as the ſtate of the parts are to determine which ſhould be choſen. If there be a tendency to inflammation, a neutralized ſoft plaſter takes place, otherwiſe, a warmer ſweating plaſter is preferable. At the ſame time the part may be well rubbed with ſome volatile ſpirit, which perhaps will penetrate into the obſtructed fluids, and ſet them at liberty; and every advantage may at the ſame time be derived from friction, that can be expected, without any danger of thoſe inconveniences unctuous remedies produce. But ſhould any, or all theſe means prove inſufficient to leſſen the ſwelling, the common application of crude ſal ammoniac, and vinegar, applied cold, ſhould not be neglected; having ſeveral times in this inſtance, known it do

good

good ſervice *. We muſt remember, however, that if the ſtimulus happens to be too great, inſtead of leſſening it will increaſe the diſeaſe, as I have learned, by attempting to take long ſtrides towards a cure; and I am convinced a great deal depends upon adjuſting our applications to the irritability of the part, otherwiſe we either do too much or too little, and our attempts prove abortive. For this reaſon cold water is ſometimes a better aſſiſtant to crude ſal ammoniac than vinegar; but by which ever method the ſwelling is reduced, cloths wet in cold water alone ſhould be applied to finiſh the cure.

Applications greatly ſtimulating may do harm.

Much depends upon adjuſting the application to the irritability of the part.

This is the ſtate in which a perpe-

* Mr. Warner recommends Barbadoes tar in his Caſes, page 320, which I have not found equally ſucceſsful; but I know it to be a powerful attenuant, and I imagine, in the inſtance he has given of its ſucceſs, the ligaments, &c. only, inſtead of the bones, were enlarged; for their becoming hard and bony is not common.

tual

Perpetual bliſter.

tual bliſter may be tried, and there are inſtances in the Medical Tranſactions *, where it was very effectual, when aſſiſted with calomel. But I have had numbers brought to me, to whom it had been applied without any ſort of advantage; and the pain and inconvenience which attended, occaſioned its being laid aſide. In a gentleman, not long ſince, it occaſioned a violent increaſe of the ſwelling about the knee, and a ſubſequent extravaſation of a very large quantity of ſome kind of fluid, betwixt the ſkin and the muſcles, which extended a conſiderable way up both ſides of the thigh, and was removed with difficulty and length of time. I have tried it myſelf without that ſatisfaction I wiſhed; and was led to obſerve, that great circumſpection regarding the ſtate of irritability, is neceſſary in its uſe; for without this caution,

* Vol. i.

inſtead

inſtead of unloading, we may bring on a ſurcharge of humours, which I am clear has often happened.

A ſeton appears to me much more eligible in this ſtage of the diſeaſe, if the diſcutients recommended are ineffectual; becauſe I have repeatedly found it anſwer my purpoſe, without producing any diſagreeable ſymptoms. I have alſo ſeen one inſtance, where a farrier obtained a complete cure by applying a cauſtic, which did not penetrate deeper than the ſkin. It was perhaps owing to ſucceſs under ſimilar circumſtances, that ſurgeons formerly recommended this remedy. I have no doubt of its being employed with advantage, under proper reſtriction, and its diſuſe might be owing to being injudiciouſly applied; for though inflammation, and a ſubſequent drain, might remove the diſeaſe, before it was far advanced, yet when the

A ſeton.

Cauſtic.

membranes, ligaments, &c. were approaching to a ſtate of diſſolution, cauſtics would undoubtedly haſten, and increaſe this kind of termination.

Internal medicines.

Along with the topics adviſed, internal medicines ſhould be given; calomel, and purging, are firſt to be employed, and occaſionally to be repeated. The other remedies ſhould, if poſſible, attenuate the obſtructed fluids, and promote their abſorption; but I am ſorry I cannot, after various and repeated trials, recommend any that can be depended upon. Vomits, I know, will in ſome inſtances, where the fluids are extravaſated, remove a flux of humours, occaſioning local inflammation; but in the preſent caſe I agree with Freke *, that they are ineffectual. Bark, and regenerated tartar, or *ſal ſodæ*, mend the general health. I have ſeveral times known them change

* Loc. cit.

the

the complexion from a ſallow to a healthful hue; and I look upon it that mending the conſtitution is a main point. If mezerion has that power of removing obſtruction in the membranes, which has been aſcribed to it, it muſt be a proper remedy; but though I have ſeveral times tried it, I have not had ſufficient evidence of its ſervice. Sarſaparilla will ſometimes remove nodes, and there is this to be ſaid in its favour, that it is a moſt powerful invigorating medicine. Lime-water, ſteel, and other aſſiſtants, as particular circumſtances require, may forward the buſineſs; but the reduction of the tumor I believe chiefly depends upon external applications.

Hitherto we have ſuppoſed the diſeaſe to have extended no farther than on this ſide the muſcles, forming a thickneſs, or ſwelling near to, or about the joint, from weakneſs of the parts, and a conſequent

obſtruction, &c. of the fluids which paſs through the membranes. We are now to advert to the ſero-purulent abſceſs ſpoken of in the beginning of this chapter, which frequently diſcovers itſelf by fluctuation, and a tumor, unattended with inflammation; but often diſappears from the application of ſome of the remedies adviſed. Some years ſince, a woman had an abſceſs of this kind formed by congeſtion, betwixt the ſkin and the muſcles, almoſt round the knee; which ſeemed to contain more than a pint of ſome kind of fluid. The volatile plaſter, recommended in the chapter on the Rheumatiſm, was applied, and within two days the tumor was entirely gone; but the plaſter not being changed, in about a week's time the tumor was as full again as ever. I therefore ordered it to be renewed, and made rather more ſtimulating, by increaſing the quantity of

Sero-purulent abſceſs.

of crude ſal ammoniac and ſoap, which had the deſired effect; for in the ſpace of forty-eight hours, abſorption had again taken place, and the ſkin and muſcles lay in contact with each other. Cloths, wet in ſpirit of wine, were then applied, afterwards a warm aſtringent plaſter, and a topical cold bath, with a laced knee-piece, which I recommend on ſimilar occaſions, finiſhed the cure. Although abſorption was ſo readily promoted in this inſtance, and many others I have inſpected, yet we are not always to expect the ſame ſucceſs from this application; owing I apprehend to different habits requiring different kinds of ſtimulants, to put the abſorbent ſyſtem into action. However, I know of no remedy which in general ſo certainly anſwers this purpoſe in lymphatic tumors, ſeated near to the ſurface. Nevertheleſs, ſometimes one, and ſometimes another of the

topics recommended, will be found more effectual, in the ſame manner as we have already obſerved about internal medicines in the cure of the dropſy *; and variety ſhould always be had in view, till we can determine the ſpecific difference betwixt one kind of irritability and another; and the method moſt likely to obtain this kind of knowledge, has already been pointed out †.

The ſerum may be let out with caution.

However, if the tumor does not give way to topical remedies, after ſufficient trial, the extravaſated fluid may be diſcharged by making a puncture, and this impediment to their action be removed for a time. But this is to be done with extreme caution, and the wound immediately healed by the firſt intention; otherwiſe, if air gets admittance, a train of horrible conſequences will enſue: for

* P. 176 backward. † Vol. i. p. 203, & ſeq.

though

though membranes, &c. about the joints may be cut through with ſafety in the ſtate before deſcribed; yet when they are diſeaſed, and verging upon diſſolution, it is inſtantly increaſed and followed by a deluge of matter. I have ſeen, more than once, the whole membranes in the thigh, from their connection with each other, diſſolved by air getting admittance into one of theſe abſceſſes, and death in conſequence of a violent diſcharge. Whereas when abſorption is made to take place, all hazard is avoided, and a recovery may be reaſonably expected.

In the former volume we ſpoke of the phlegmonoide rheumatiſm *. It is ſometimes local, affects the ligaments about the joints, and by weakening the membranes is one cauſe of the white ſwellings. It is generally more painful than that ſpecies we have deſcribed; becauſe

Phlegmonoide rheumatiſm.

* See chap. ix.

it approaches towards an inflammatory diſpoſition; and if ever bleeding is proper in this diſeaſe, it is in the preſent inſtance, where perhaps Mr. Freke might find it uſeful. Nevertheleſs, unleſs the greatneſs of inflammation happens to demand their uſe, emollient pultices, and whatever relaxes, ſhould here alſo be avoided. A neutralized ſoft plaſter, or the *aqua ſaturnina* made of vinegar of lead and crude ſal ammoniac, are much better remedies; and if pain requires, I add opium to the volatile plaſter when that is applied; but if, notwithſtanding, the fluids become extravaſated, and the tumor ſeparates, it may be treated in the manner we ſhall hereafter direct.

Abſceſſes in the joint.

It is uſeful in practice to make three diſtinctions in chronic abſceſſes of the joints.

The firſt is when the ligaments ſurrounding and connecting the joint are the

the ſeat of the malady. Theſe diſſolving, diſunite the bones, and the joint becomes looſe and full of matter; but if it is tolerably good when diſcharged, and if the other ſymptoms are mild, we may conclude, as the diſeaſe did not originate in the bones, that they are not very foul, even though they ſhould be found bare upon paſſing a probe. Under theſe circumſtances, if the matter has a free exit, the patient is not unfrequently cured with an anchyloſis of the joint.

Secondly, when the diſeaſe takes its riſe in the neighbourhood of the knee, betwixt the muſcles and the bone, which is to be diſcovered by the touch; and the attempt to cure by diſcuſſion will not be frequently ſucceſsful, I have rarely ſeen external application have any good effect, owing I ſuppoſe, to the cauſe being deeply ſeated, and to the interference of the parts which cover it; and we

Second ſort.

we can as ſeldom remove the complaints by revulſion. The matter more commonly erodes the *perioſteum*, makes its way into the joint, deſtroys the cartilages and connecting ligaments, and great diſſolution, all round the joint, with a deluge of matter follows.

Third ſort.

Thirdly, when the diſeaſe originates in the bones, &c. belonging to the joint, and extends along the membranes and tendons to the neighbouring parts. In this inſtance, the firſt ſymptom which diſtinguiſhes the complaint, is commonly a fixed pain in the joint; which is increaſed upon motion, and a gradual bulging of the capſular ligament by degrees demonſtrates the ſeat of the malady. Whereas, when the inſide of the joint is unaffected, it is free from the complaint, and the ſwelling is manifeſtly confined to the integuments. Pain within the joint then is an alarming ſymptom; and

and when the tumor has increaſed in ſize, till the dilated veins ſhew the greatneſs of the diſeaſe, and a ſero-purulent evacuation follows an aperture in the ſkin, &c. it is often increaſed to a moſt violent degree, from the fluids acquiring increaſed acrimony by the admiſſion of air; which, together with colliquative ſymptoms that immediately came on, put us under the neceſſity of removing the end of the bones, or the limb, to preſerve the life of the patient *.

But to be ſucceſsful in the cure of ſuch of theſe abſceſſes as will admit of relief, the parts muſt not have been relaxed with emollient poultices, &c and when approaching ſuppuration becomes evident, they ſhould be covered with a ſoft mild plaſter, and let alone; attending to the general health of the patient, which is

* There are ſome caſes of this kind, in the 4th Vol. of the Ed. Med. Eſſ, and in Mr. Cheſton's Pathological Inquiries, well worth reading.

very

very often much impaired by pain, or the abſorption of matter: but when it is diſcovered where the matter is likely to make its way out, a round opening of ſmall ſize, ſhould be cut through the plaſter, and a proportionable quantity of pultice applied, by which means the tumor is made to protrude in this part, and the matter is gradually diſcharged through an opening that gives no diſturbance. Afterwards the teguments ſubſide, and by the aſſiſtance of cold water alone, a cure is ſometimes effected, by the coming away of the bones by degrees; or what is exceedingly curious, with little or no exfoliation, though we are ſatisfied by the probe that they were foul. This I can only account for by adopting Mr. Hunter's doctrine of the foul bone being removed by abſorption, and its place being ſupplied by a new oſſification†.

† See Caries.

This

This practice I firſt learned from the effects of Malvern * water, in a caries of the joints, which was thought to be incurable; and when I found the advocates for this remedy claimed no other preference than its being purer than other water, I concluded that its good effects aroſe from its coldneſs and ſimplicity, and from its being deſtitute of thoſe properties which irritating applications produce. Wherefore I imagined the water from the ſprings in this place would ſufficiently anſwer the ſame purpoſe: and upon trial, I found my conjectures perfectly right, having ſince cured many diſeaſed joints, that I ſhould formerly have amputated. I obſerve cold water allays irritability, ſtrengthens the part, and defends it from being invaded by a load of humours, which always occaſion great ſwelling, abſceſs after abſceſs,

Cold water, its effects as a topic.

* Dr. Wall's Works, publiſhed by his Son.

and

and conſcquently a greater abſorption of matter; and hence follows colliquative fevers, which would not have happened, had pultices been laid aſide, and this method purſued.

I have repeatedly ſeen, where the bones became affected by a diſſolution of the connecting ligaments, the end of thoſe compoſing the joint, come away by degrees under this treatment. But time is required, ſometimes two or three years, or more; and now and then ſmall dilatations may be neceſſary, to ſet matter or foul bone at liberty; but during this period, the ſores are commonly in a mild ſtate, and leſs troubleſome than thoſe can imagine, who are unacquainted with this method of proceding.

Time required.

Dr. Wall * imagines drinking Malvern-water abates the hectic, which not unfrequently attends theſe complaints;

* Ibid.

and

and I am convinced, a ſimilar effect may be expected from drinking any pure water. But the hectic is abated by the topical application of cold water alone, which checks great collections of matter. Nevertheleſs, more or leſs is now and then taken up by the abſorbents, even where the flux about the joint is reſtrained; and *eryſipelata* or *apthæ* happen in conſequence: but theſe ſymptoms are from time to time readily managed by the uſual internal remedies, and even ſometimes prevented, by waſhing the matter out of the ulcer at each dreſſing, with antiſeptic lotions. The topical cold bath will often prevent the neceſſity of making a wound to ſaw off the ends of the bones, forming the joint; becauſe they will in time either come away piece-meal themſelves, or may be eaſily taken away with a pair of forceps: but ſhould the violence of pain, or greatneſs of the diſ-

charge

charge make this operation neceſſary, the limb by this treatment will be ſtrengthened, and be better prepared for the purpoſe.

In the preceding account we have conſidered the different ſtages of the diſeaſe, which occaſions the white ſwellings diſtinctly, as they often preſent themſelves to our notice; whence the whole may be better underſtood when united together: for it frequently happens, that the joint, and the membranes, &c. both above and below it, are at once equally affected from the beginning, and the cure becomes arduous in proportion to the degree of complication. Sea-water and ſea-bathing *, or the method preſcribed, however, will afford a chance of relieving the patient: if theſe fail, the joint in time will point out what other method

* See Ruſſel on Sea-water, p. 116. Hiſt. 3d. which, inſtead of being a glandular diſeaſe, was more probably a common white ſwelling.

ſhould

ſhould be purſued; but though an unfavourable termination may be dreaded, yet it ſometimes happens that both the limb and life are preſerved under theſe untoward circumſtances.

A young woman, twenty two years of age, was ſeized with a ſwelling of this kind in the knee; and notwithſtanding diſcutients were uſed when the diſeaſe firſt appeared, they did not avail: in about a year's time it became very large, and was accompanied with moſt exquiſite pain, eſpecially upon the leaſt motion of the joint. A deep-ſeated fluctuation was perceptible, and it was expected matter in time would make its way out, and determine our proceedings. An anodyne ſweating plaſter was nevertheleſs applied, her bowels were kept open; ſhe took opium occaſionally, and the bark and diuretic ſalt were alſo given; but inſtead of ſuppuration advancing,

after continuing in bed two or three months in this miſerable ſtate, the pain gradually decreaſed, and ſhe recovered in time, with a ſtiff joint, and rather a fullneſs of the external parts, which were diſeaſed. This gives her no ſort of uneaſineſs, and ſhe has ſeveral years enjoyed a good ſtate of health. Mr. Freke ſays*, "by keeping the patient conſtantly in "bed, not inviting the *ſinovia* to increaſe "in the joint † by the motion of the "limb, and by keeping the body more "inclined to perſpire than when out of "bed, and the joint being in a more than "ordinary perſpiration all the time, by "the uſe of the plaſter, I have effected "many cures; but I never ſaw one per-"formed by the methods formerly in uſe "by the firſt men in our profeſſion:" and this inſtance ſeems to favour the doctrine he advanced.

* Art of Heal. p. 225.

† This ſuppoſes the diſeaſe to be within the joint.

There

There are ſome peculiarities in an abſceſs of the hip and ſhoulder, from their being ſeated under thick muſcles, &c. and we did not therefore enumerate them in the account above given. I have ſeen ſome inſtances, however, where a ſeropurulent abſceſs formed round the burſal ligament of the hip, without affecting the joint; and upon proper openings, ſometimes both in the hip and groin being made, and cold water applied, a cure has followed. It more commonly happens, that abſceſſes in this part originate in the joint. They are uſually accompanied with a diſlocation of the *os femoris*, from the ligaments, &c. being relaxed. In conſequence, the diſeaſed limb at firſt becomes longer than the other, ſuppuration about the joint follows, the bone is diſlocated, and ſlipping up under the muſcles, the leg which was longer becomes ſhorter, and an abſceſs appears in

Abſceſs of the hip, &c.

part, under the muſcles on the external part of the hip. Mr. Cheſelden* ſays, he has twice ſeen the matter in the joint, make a way through the bottom of the *acetabulum* into the *pelvis* of the abdomen. And in a diſlocated hip, from an internal cauſe, I once knew the abſceſs extend itſelf into the abdomen; matter upon preſſing this part, being diſcharged from under the muſcles at the opening in the thigh, and the patient recovered.

External applications, even in the beginning, are incapable of diſperſing this deep-ſeated malady. Setons do not prevent an abſceſs, nor do they alleviate, when paſſed as ſoon as an extravaſated fluid can be perceived; and I never ſaw internal medicines have any other effect, than protracting the complaint. All we can do is, I believe, to preſerve the general ſtrength as much as poſſible, to avoid relaxing applications, and to mitigate the

* Anat. p. 29.

pain

pain by topics, till the tumor breaks; and this is moſtly effected by a warm anodyne plaſter. When the matter makes its way out, it ſhould be ſuffered to drain off gradually, through a ſmall opening; which nevertheleſs may be enlarged, when matter is confined, which ſhould never, if poſſible, be ſuffered. The plaſter ſhould now be changed for cloths wet in cold water, and by theſe means I have frequently ſeen foul bone make its way out in length of time, and the parts heal, leaving a fulneſs in the hip, and a ſhort leg on account of the diſlocation.

Shoulder.

The ſhoulder is ſeldom affected with abſceſſes of the joint, compared with their frequency in the hip; yet there are not wanting inſtances of abſceſſes in this part, either from foul bone, or diſeaſed ligaments; and of the head of the bone, either ſeparating ſpontaneouſly, or being removed by an operation. There is

now in the neighbourhood of Burton upon Trent, a man from whom the head of this bone, and ſeveral inches adjoining to it came away of itſelf, when a boy. The ulcer was cured by a common apothecary, the man has a uſeful arm, and the cicatrix ſhews the greatneſs and extent of the diſeaſe.

Mr. White * and Mr. Bent † each of them ſawed off the head of this bone, and ſuffered their patients to remain in poſſeſſion of a uſeful limb; nor is this the only articulation from which ſimilar ſucceſs may be expected. There is an inſtance in the Philoſophical Tranſactions, No. 466, p. 270, of an abſceſs in the articulation at the hip of a girl, fourteen years of age, which broke; and the ſurgeon afterwards dilating the opening made by nature, extracted the whole head of the *os femoris*. By injecting

* Caſes. † Med. Comment. vol. iii. p. 4.

tincture

tincture of myrrh, and uſing a bandage, ſhe was cured in ſix weeks, and could walk freely, though with halting. I have known the lower end of the *os humeri* knocked off through a lacerated wound, and the patient recover with a uſeful arm. The lower end of the *radius* and *ulna*, and the upper and lower end of the *tibia* and *fibula*, have been removed by myſelf and others *, in compound diſlocations, with very little defect in the motion of the joint: and Mr. Parke † of Liverpool, has now ſhewn twice, in white ſwellings of the knee, that the lower end of the *os femoris* may be taken away in the ſame manner, with the ſame

* See Gooche's Surgery, vol. i. p. 323, 2d. ed.

† Letter to Mr. Pott. the other caſe has not yet been publiſhed. Apparently, however, this practice can only take place when the diſeaſe originates in the end of the bones; for if the ligaments and membranes, a conſiderable way round about, are the ſeat of the malady, and much injured, removing the bone may not be able to accompliſh a cure.

advantages. Whenever it can be conveniently done, it ſurely is preferable to amputation, which never fails to mutilate the patient; and even thoſe who wiſh to be thought expert operators, may ſhew much more ſkill and dexterity in this than in performing a hackneyed operation.

I have heard of two inſtances, where the thigh has been taken off at its articulation, without loſs of much blood; but the patients both died. In one indeed, the operation was done without much expectation of ſucceſs, and the other, a youth, was carried off by a dropſy, when the wound was nearly healed. But ſuppoſing a probability of its being ſometimes done with the deſired effect, I know of no advantages, unleſs a great part of the *os femoris* ſhould be invaded with an incurable caries, that can compenſate for the loſs of the limb,

which

which might probably have been ſaved by ſawing off the head of the bone: for if the bones about the joint are carious, exfoliation is as likely to take place by this operation, as by taking off the limb; and from the facts adduced, will not the ſame arguments hold good, when a caries of the head of the *os humeri* requires its being removed?

On Amputation.

Nevertheleſs, amputation may become neceſſary from an extenſion of the caries, both above and below the joint, an approaching colliquative fever, and a variety of other cauſes; but this operation ſhould never take place, without a conſultation of thoſe whoſe experience in medical ſurgery *, enables them to judge

* See introduct. page 12, & ſeq.

what

what is moſt expedient to be done, for the happineſs or ſafety of the patient; and when amputation is the miſerable but only remedy, it ſhould be ſet about with as little parade as poſſible. There is no need either for the barbarous dreſs, or frightful apparatus, ſometimes uſed on this occaſion. A much ſmaller ſtrait knife, with a ſharp point, which ſome have recommended, is leſs alarming, and much more handy, than the large one that has in general been uſed; eſpecially as it will do every part of the operation. Whereas if we uſe the other, we muſt change our inſtrument as we go on. A ſilken handkerchief makes the beſt and moſt eaſy tourniquet I ever ſaw*, and is leſs terrifying to the mind of the patient than any kind of formal machine; and if there be an abridgment in

* This I firſt learned by the common tourniquet breaking.

the

the ſaw, it will not be leſs uſeful. The operation ſhould provide for the end of the bone being deep buried among the muſcles, and for theſe being covered with the ſkin; for without both theſe precautions, a pyramidical ſtump has been a common conſequence. This is prevented by making a circular, or common flap, as the part on which the operation is performed may require; by preſerving ſkin enough in the operation to exactly cover the wound, and by drawing up the fleſh with a retractor, as high as is neceſſary for ſawing through the bone; and we ſee where nature divided the ſkin and muſcles, below the elbow, an accidental flap was ſufficient to forward and make a good cure. But the ſucceſs of all theſe operations depends upon the after-treatment; for unleſs this be well managed, it is not of any great conſequence by what method the limb is taken off; as the healing of

Intentions to be purſued in the operation.

Advantage of after-treatment.

of the ſtump will commonly end in an aukward manner.

Flap operation, how it firſt came to fail.

The want of ſucceſs which brought the firſt trials * of the flap operation into diſcredit, was owing to the after-treatment not being properly purſued; becauſe it has ſince repeatedly ſucceeded; not always indeed by an immediate union of the whole of the divided parts, but connection ſo far commonly takes place, that by proper dreſſings, and bandage, a much ſhorter time elapſes before the cure is complete than when this mode of operating is omitted. More than thirty years ago, my friend Mr. Fiſher, and myſelf, in making the double inciſion to take off the leg above the knee, agreed to divide the muſcles ſlanting all round towards the bone; and afterwards drawing up the fleſh, I readily ſawed out the bone from under the muſcles, farther

* *Currus triumphalis e terebinth.* in 1679.

than

than could be done by the uſual method; but I did not make thoſe advantages of this mode of operating I might have done, owing to my following the common practice of applying lint and flour to the wound. However, I always began to apply a mild digeſtive balſam at the ſecond dreſſing, and not cramming the ulcer with this or any other application, its ſides gradually approached each other; and by the aſſiſtance of a double-headed roller, as ſoon as inflammation would admit of its being uſed, I generally had the ſatisfaction of ſeeing this buſineſs terminate better than when the operation was performed in the common manner. When Mr. Gooch * recommended a third inciſion, with a ſmall knife upwards round the bone, and drawing back the muſcles with a retractor, I tried this method, and found I could leave the end

* Caſes a ndRemarks.

of

of the bone covered any depth I choſe, with the utmoſt facility; but though I always took care to preſerve ſkin enough to cover the wound, I did not yet think of curing by the firſt intention. However, having learned that the ſmall arteteries would contract under any application, and that dry lint is an extraneous body, which embarraſſes nature with difficulties; I dreſſed with a mild digeſtive balſam, lightly introduced into the cavity from the beginning, after bringing down the muſcles, with the uſual bandage. A mild ointment was then applied outwardly, and inſtead of raiſing the ſtump with a pillow, I laid it flat upon a doubled ſheet, and ſuffered the patient to lie in a poſture moſt eaſy to himſelf; by which method, aſſiſted with the double-headed roller, my firſt patient in this way, with a very thick thigh, was perfectly cured in leſs than five weeks, with

with every advantage we could desire; and for many years I pursued the same method with equal success.

When the bone is not surrounded with muscles, a flap on the under side unavoidably happens, when we mean to make a cushion at the end of the stump. Accordingly when I took off the foot a little above the ancle, some years before any account of this operation was published *, a flap was naturally left after this part of the limb was removed: and

Flap at the ancle.

* I assisted Mr. Doxey of Ashbourne, in taking off a man's leg below the knee for a diseased ancle; and meeting with him about a year afterwards, he told me he wished he had taken it off a little above the affected part, because by making a boot he could have had the use of his knee, and thus have been much more comfortable than in his present situation. He said he had seen something of the kind, to which he could make an amendment. He was an ingenious mechanic, and the conversation I had with him, so thoroughly convinced me of the propriety of his scheme, that I put it in practice soon afterwards with success.

knowing

knowing the miſchief that muſt of courſe ariſe from leaving the *tendo Achillis* behind, I cut it away, and thus made the flap uſeful; not at that time by an immediate union, though I turned it up from the firſt dreſſing, but by uniting the parts by degrees after the ligatures which tied the veſſels were come away, and the new fleſh began to riſe. Much about this time, Mr. O'Halloran * revived the flap operation by uniting the parts after digeſtion, &c. had taken place; and after him Mr. White † practiſed the flap operation above the ancle, in nearly the ſame manner. Theſe ſteps probably gave riſe to the circular flap above the knee. To the after-treatment Mr. Alanſon ‡ introduced, Mr. Mynors ‖ has ſince aſſiſted much, in bringing this buſineſs towards perfection. Their at-

O'Halloran and White.

Alanſon and Mynors.

* Gangrene and Sphacelus. † Caſes. ‡ On Amputation. ‖ Pract. Thoughts on Amputation.

tempts

tempts to cure as much as poſſible by the firſt intention, is a moſt rational practice. Covering the wound with the ſkin, is certainly the moſt natural application; and when it is placed in contact with the ſubjacent parts, adheſion and inoſculation are well known to take place in a few hours. Great inflammation, that diſturbance in the animal œconomy, which irritation, the progreſs of digeſtion, and the ſubſequent abſorption of matter produce, are prevented*, as ſome of our principal writers have long ſince obſerved. It only therefore remains for us to compare the double and triple inciſion, and ſee which method is moſt likely to anſwer theſe purpoſes.

Of curing by the firſt intention.

When we proceed upon the plan of making a circular flap, by cutting out part of the muſcles, thoſe which remain on the ſides are brought over the extre-

Parallel betwixt double and triple inciſion.

* See chap. on wounds.

mity of the bone; the ſkin, which at firſt lies looſely over the ſides of the muſcles, adheres in a little time; nature ſupplies the loſt ſubſtance, and a much ſpeedier cure, and leſs inconveniences follow, than when the patient is treated in the common manner.

When we purſue the method of removing the limb by a triple inciſion, after cutting through and drawing or turning up the ſkin, we divide the muſcles, beginning cloſe to the edge of the ſkin, by a perpendicular circular inciſion; and while the fleſh is drawn gently backward by the retractor, it is ſeparated from the bone by the point of the knife, as far up as is neceſſary to leave a ſufficient covering, when the parts are healed. By this means we make a circular flap of the whole muſcles, without loſs of ſubſtance, that will unavoidably cloſe down over the end of the bone. The ſkin and muſ-

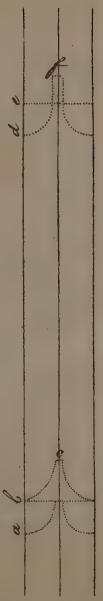
cles

cles are brought face to face, laid in close contact; very considerable arteries, with the assistance of a little pressure, are as effectually stopped by the skin being thus applied, as they could be by the application of agaric or spunge: and there will be nothing, except the ligatures securing the large arteries, or a bad habit of body, to prevent the first intention, or an immediate adhesion of the skin and muscles taking place. But supposing the amputation to be made above the knee, we shall be better understood by drawing a few lines.

In the first instance, the skin is divided round the limb at *a*, and drawn or turned back to *b*. The slanting incision is then made, and the bone sawed off at *c*. Afterwards, the skin from *b* to *a* being brought over the muscles, of course turns them inward, to make a covering for the end of the bone; in which it

muſt be obſerved we differ from other flap operations, where inſtead of robbing the part of muſcular fleſh, we preſerve it entire to make as thick a covering as we conveniently can. And, beſides, by taking away part of the muſcles, the ſkin cannot be placed in ſo cloſe contact as when the ſurface is level; and if they are not placed in cloſe contact, they cannot immediately unite. On the contrary, when the operation is performed by a triple inciſion, after dividing the ſkin at *d*, and drawing or turning it back to *e*, the muſcles are divided by a perpendicular inciſion. The third inciſion is then made cloſe along the bone to *f*, where it is ſawn off, by which means the circular flap is not weakened, the bone is buried deep among all the muſcles, and the ſkin is laid cloſe to a ſmooth ſurface. I know either method will do better than that which has been in common uſe; but

it


d
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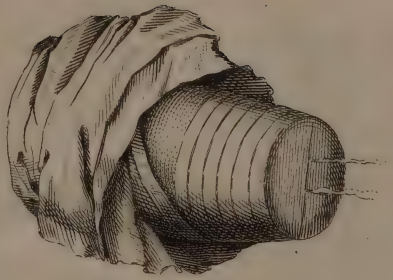

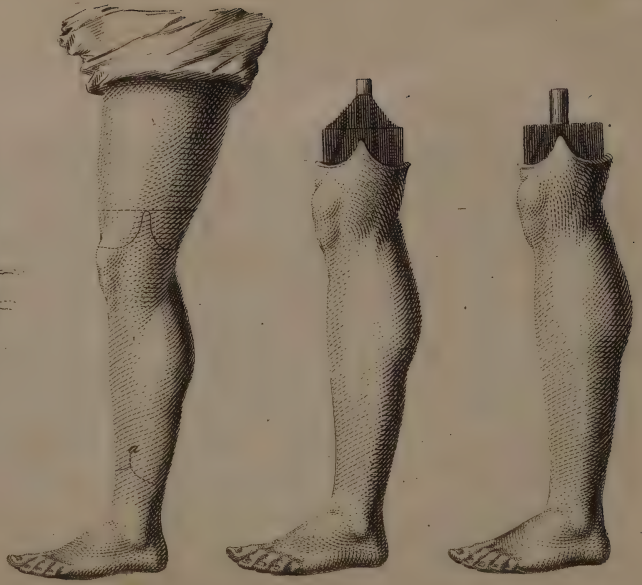

it may be obſerved of the latter, that adheſion more readily takes place, a better covering is formed, and the patient recovers with the utmoſt eaſe, that can be expected: and what may ſeem ſtrange, we will call in the evidence of Mr. Alanſon in favour of ſuch practice, executed under rather unfavourable circumſtances.

Alanſon's evidence in favour of a perpendicular inciſion.

Before he deviſed his preſent plan of operating, he amputated a man's leg on account of a white ſwelling of the knee*, by the double inciſion; the muſcles being divided perpendicularly to the bone, many veſſels were tied, and the wound was dreſſed in the uſual manner, with bandage, dry lint, and pledgits of digeſtive, &c. but in a few hours afterwards, an hæmorrhage occaſioned his taking off the dreſſings, when he was ſtruck with the ſufferings of the patient,

* On Amputation, p. 23. & ſeq. 2d ed. p. 36.

upon the lint, which had formed a firm adheſion with the ſurface of the ſore, being ſeparated. Wherefore after the bleeding arteries were ſecured, and the circular bandage re-applied, inſtead of dry lint, he placed the ſkin over the ſurface of the wound, as far as it would go, and dreſſed the whole with digeſtive pledgits.

"Upon the fourth day after the operation," (ſays he) "I changed the dreſſ-
"ings, which all ſeparated with the
"moſt perfect eaſe; the diſcharge was
"very ſmall, and the ſkin was over the
"wound, exactly as I had left it, and the
"whole in a very kind ſtate reſpecting
"inflammatory tenſion. In ſhort, the
"ſkin ſoon formed ſuch adheſions, as
"fixed it where it was firſt placed; the
"diſcharge was uncommonly moderate
"through the whole cure, and by con-
"tinuing the bandage to ſupport the
"parts, with ſoft gentle dreſſings, the

ſtump

" ſtump perfectly healed in twenty days. " The cicatrix was in the center of the " ſtump, and ſo ſmall as to be perfectly " covered with a ſhilling; and as the old " ſkin formed ſo conſiderable a portion " of the extremity of the ſtump, and " there had been ſo ſmall a waſte of the " adipoſe and cellular parts, in conſe- " quence of the ſmall ſuppuration; the " whole looked very plump and full, and " formed the beſt cuſhion to walk upon " I had ever ſeen." In another place he ſays, the more muſcular ſubſtance we ſave, the better; and had the third inciſion been made, would it not have met theſe ideas, and have been a proper proviſion againſt any inconvenience from the bone being left too near the ſkin*? Nevertheleſs, Mr. Lyon † firſt ſuggeſted the deſign of omitting all intermediate dreſſings, and placed the ſkin in a line on

* See p. 64. 2d. ed. † Ib. p. 43.

the face of the ſtump, with a view of uniting the whole by the firſt intention. Practice evinced the rectitude of his proceedings, and the inconveniences Mr. Alanſon points out from uſing dry lint after amputation, holds good in every wound to which it is applied: thus by uniting Mr. Gooch's method, with the modern practice of curing by the firſt intention, we add ſome improvements to the direction given by *Celſus** ſeventeen hundred years ago; and by adhering ſtrictly to ſimplicity, we certainly avoid the greateſt part of the danger attending amputation. If the limb be removed by a triple inciſion, and *coagula* of blood ſpunged away, the wound, being a level

Simplicity, its uſe in this inſtance.

* There have been different opinions about the paſſage referred to, in lib. vii. cap. 33. ſome thinking it ought to be read *in quibus pus movere debet*; others, *in quibus pus non movere debet*; but I think with the latter, becauſe the method of cure he lays down is by the firſt intention.

ſurface,

ſurface, may be covered with the ſkin with the utmoſt exactneſs; and a preſſure made upon it with the palm of the hand will not only occaſion adheſion, but ſuppreſs any hæmorrhage from the muſcular arteries in a very ſhort time: after which ſlips of ſticking plaſter, the diachylon ointment, and ſmall bolſters on each ſide the lips of the wound, may be applied. But above all, the muſcles ſhould be placed in a relaxed ſtate, and preſerved in that ſituation perfectly free from motion *; otherwiſe, by ſuffering them to be put into action, the union may be deſtroyed, and digeſtion the conſequence. But even ſuppoſing this to happen, it will be brought about with leſs inconvenience to the patient than if any extraneous body had been applied; and the parts will be readily made to unite, by bandage applied day by day.

* Mynors, on Amputation.

The

The old method of drawing out the arteries, and tying them bare without any adjoining ſubſtance, obviates all the objections againſt the ligature; but a thin waxed thread, does not appear to me to be the moſt eligible ligature for the purpoſe; for unleſs the veſſel be tied with the greateſt nicety, it may cut off the end of the veſſel, which being cloſed only to the next collateral branch, may ſometimes occaſion a freſh hæmorrhage, and this is ſaid to have happened. Whereas, it is impoſſible ſuch an event ſhould follow, if we tie them with long untwiſted twelve-penny flax, as I long ſince recommended in my Eſſay on Hæmorrhages from divided Arteries. It lies upon the veſſel as ſoft as lint would do, comes away in a ſhorter time than the common ligature, gives leſs interruption to the healing of the wound; and the length of time

time I have employed it, enables me to ſpeak of its utility with confidence.

I always diſapproved of the woollen cap, becauſe it is true, that it pulls back the edges of the wound, and gives pain upon being uſed. The tail-bandage is void of theſe inconveniences; but the common four-ſquare piece of flannel, ſlit at each corner, is equally handy and uſeful. Theſe, however, ought only to be employed, where we cannot make uſe of better aſſiſtance: for a certain degree of preſſure promotes curing by the firſt intention, more than any other remedy; nor can it be made with any bandage equal to a roller with two heads. But when the operation is performed in the thigh, or leg, this is inapplicable till the adheſion, &c. has firmly taken place; becauſe moving the limb to uſe it before that period, would over-balance its good effects.

Half the diameter, appears to be the due

Rules of proportion for preserving skin to cover the wound.

due proportion to be observed, in preserving skin in the amputation of various sized limbs, where none of the muscles are cut out; but when excavated, less will be sufficient. In the lines above drawn, I have supposed the limb to be nine inches in circumference*, and the bone to be sawn off about three inches from the first incision, one half of which is skin left without muscles; in which it will appear that the wound will be completely covered: but the eye will generally measure the length of skin necessary for this purpose, and this will depend upon practice. When the triple incision is made, the bone may be brought out from under the muscles, any length the surgeon chuses; though moderation should be observed, that a sinuous ulcer may not be the consequence. Nor should the end of the bone be left uncovered

The eye will generally direct.

Caution about triple incision.

* See O'Halloran, Hey (in Alanson) and Mynors.

with

with the muſcles, leſs than an inch and a half, becauſe more or leſs contraction of the muſcles will unavoidably take place. I agree with thoſe who aſſert, that if more ſkin is ſaved than is neceſſary to cover the face of the wound, it proves inconvenient, not only in being ſuperfluous, but it will not lay ſo cloſe as it ought to do, to prevent an hæmorrhage from the muſcular arteries. It is better if the lips can juſt be drawn together with tolerable eaſe; and by making an inciſion through the ſkin on each ſide the thigh, as the annexed plate directs, we determine the exact breadth of ſkin to be ſaved; and we have not only a better opportunity of ſeparating the cellular membrane, and turning up the ſkin, but we prevent its puckering at the corners, and a more level ſurface is produced.

Inconveniences of ſaving too much ſkin and how to prevent its puckering.

It may be obſerved that in the leg, we preſerve ſome ſkin upon the ſhin, to be turned

turned up before the bone is ſawed off at *a*, ſufficient to meet the flap, and form a horizontal line acroſs the ſtump. If the foot be taken off at the place marked in the drawing, the tendon, as we have already obſerved, muſt be removed, to prevent the inconveniences that would ariſe from its being in the way. In a long ſtump, if the boot be well finiſhed, it makes a lateral preſſure all the way up, which gives ſteadineſs; and the machine I have uſed having a regular ſhaped foot, with a ſpring in the ancle, which raiſes the toe in walking, the patient uſes both legs in the ſame manner.

In the thigh, the ligatures may hang out in the front. In the leg on the ſides, and one or other of theſe methods may be purſued in moſt amputations of larger extremities; and perhaps complete, as nearly as poſſible, the wiſhes both of Wiſeman and Sharp. But after all, every

ſurgeon

ſurgeon under particular circumſtances, muſt be directed by his own judgment; for there will be inſtances occur, in which it will be very unfortunate if he be incapable of departing from rules preſcribed by others. For ſuppoſing an opportunity to offer, of performing amputation by dividing contuſed and lacerated parts only, a greater exertion of ſkill will be required to make this act of humanity perfectly anſwer the intention, than where the poor patient undergoes the pain and miſery attending a freſh wound being made in a ſound and ſenſible part.

Surgeons to be directed by their own judgment.

To the gentlemen preſiding in hoſpitals, theſe remarks on amputation will appear trivial, and the following plates of very little conſequence. But to thoſe who do not ſee an amputation once in ſeven years, they may, perhaps, be ſerviceable; eſpecially as various ideas have been formed of the manner in which this

this operation has been directed to be performed by modern writers.

A different species of white swelling.

Some years since, I assisted Mr. Newton, of Burton upon Trent, in taking off a boy's leg above the knee; on account of a violent pain, which from being borne a great length of time, in opposition to every attempt to relieve it, had emaciated the whole body almost to a skeleton. The knee was rather fuller than it ought to be, but not much swelled. A kind of undulation was perceived upon pressure. The tendons of the ham were contracted, from his keeping the knee bent, and the calf the leg was greatly wasted.—Upon dissecting the knee, after it was removed, the capsular ligament appeared to be sound, the joint was found to be full of that white substance, composed of fat, membranes, and some say, of mucilaginous glands, which we meet with about the neck of the bone. It was perfectly

perfectly ſpringy or elaſtic, and probably by its ſwelling, and conſequently diſtending the nerves, occaſioned the pain which had ſo long tormented this unfortunate youth. The parts were perfectly void of inflammation, no fever attended, not a drop of matter appeared, nor could we diſcover any diſeaſe of the bones; ſo that upon the whole this affection ſeems to conſtitute a white ſwelling of the joints, different from thoſe we have before deſcribed, and from that deſcribed by Cheſelden*; where the exceſſive pain which occaſioned the amputation of the limb, aroſe from the heads of the bones being a little larger and ſofter, and probably from their diſtending the nerves. Whether iſſues or ſetons upon the part, or an attempt to remove the cauſe of diſtention by revulſion, when the bones are not affected, would have any good effect, it is

* Anat. p. 49

hard to say; but the malady being pointed out, may lead to a cure, if it is curable.

Perhaps it was impossible to have a clearer instance in proof of pain being incapable of creating either inflammation or fever; and if we add to what has already been said in vol. 1st. p. 240, on this subject, the progress, and event of a painful lingering labour, no further evidence can be required to prove beyond possibility of doubt, the truth of the doctrine we advanced, and the falsity of many theories which exist upon erroneous principles, formed on the contrary opinion.

Pain, and its effects.

Pain appears to be a nervous affection, its effects are restlessness, sometimes loss of appetite, spasms, and often, when long continued, a wasting both of the affected part, and of the whole body. When violent, it is the most distressing of

of all afflictions. It ought always to claim our firſt attention; and where we cannot remove the cauſe, the nerves ſhould be rendered inſenſible to its effects, and time gained for our further proceedings.

How to be treated.

In the chapter on the dyſhymeny, it was forgotten to be obſerved, that we ſometimes meet with fungous abſceſſes, unattended with inflammation or pain, on the outſide of the joints, which undulate upon being examined; and we have more than once been deceived in their contents. For inſtead of finding ſero-purulent matter as was expected, a kind of fungous membrane preſented itſelf, upon their being opened; and I apprehend it has ſome affinity with the diſeaſe in the inſide of the joint juſt mentioned. But this from its ſituation is much more tractable, for it gives way after the tumor is opened, and the ſore

Fungous abſceſſes.

begins to digeſt, to mild eſcharotics, dry dreſſings, and a topical cold bath. Probably this is the diſeaſe *Purmannus* ſpeaks of, in the 9th chapter of his third book *de Chirurgia curioſa*, which he ſays "reſembles the *fungi* of trees, and ſeize "on no other part but the joints of the "knees and elbows." The figure he gives does not correſpond with this account, and he ſeems to confound it with the *hydrops articuli*; but I am rather inclined to think it a membraneous affection, ſimilar with thoſe ſwellings in the fingers and toes, which have hitherto been called ſcrofulous.

In performing amputation above the ancle, I have run a cataline through the leg cloſe to the bone, and at one ſtroke made a flap ſufficient for the purpoſe of meeting the ſkin which covered the *tibia*, ſo as to form a ſtraight line acroſs the ſtump, after the bone is ſawed through, and the veſſels tied.

CHAP.

CHAP. XXI.

ON LYMPHATIC AND GELATINOUS ABSCESSES.

WE have already ſpoken of ſome of theſe tumors, to which we were led by connection; but it ſtill remains for us to obſerve, on thoſe which appear on the outſide of the joint, and ſome other places.

It frequently happens from bruiſes, or without any manifeſt cauſe, that a ſwelling without inflammation or inconvenience, ſhews itſelf upon the *olecranon*; which, when opened, diſcharges either lymph, or a gelatinous fluid. It often remains long in a ſtate of indolence, and is ſeldom taken notice of, even by the patient himſelf, till the ſize begins to claim his attention. I have often tried to attenuate the fluid, and promote abſorption, but do not remember ever be-

At the elbow.

ing ſucceſsful; though I have often cured the patient by inciſion. In this proceſs ſome attention is neceſſary; for theſe tumors are apt to inflame upon being opened, great ſwelling of the neighbouring parts follows, and the obſtinacy uſual to inflamed membranes prevails.

How cured.

To prevent theſe inconveniences as much as poſſible, the tumor muſt be opened from one end to the other, and wiped out clean with a moiſt ſpunge, that neither air or lymph may be confined to produce a corroſive ichor. I have not yet tried whether curing by the firſt intention will ſucceed, though I ſee no reaſon to the contrary. Hitherto, in my practice, a very mild digeſtive balſam lightly into the opening, and externally a diachylon ointment, have been applied; and when the inflammation, which is ſlow in ſubmitting, ſubſides, and new fleſh begins to ariſe, I have ſhortened the cure by uniting the parts with bandage.

The ſame proceſs may be purſued when

when theſe abſceſſes happen from preſſure or bruiſes below the *patella*; though ſome have adviſed ſetons, which they juſtly prefer to the practice of removing all the ſkin that covers the tumor: for ſurely they did well in exploding a remnant of practice ſo diſgraceful to ſcience! However, though the ſeton is preferable to a barbarous uſage, it remains to be determined, whether it is preferable to the method juſt deſcribed. I have compared them, and it is from thence that I have been led to make choice of inciſion in my general practice. The ſeton, it is well known, irritates and inflames, and ſometimes forms an abſceſs, (witneſs the hydrocele) and ſhould air get admittance along the cord, and be confined, which I have known to happen, a corroſive ichor will be produced that may do irreparable injury, unleſs it is diſcharged through a free opening, as we have before adviſed.

At the knee.

Seton in theſe tumors.

Proper when under the maſtoid muſcle.

In ſome lymphatic abſceſſes, the ſeton, however, will of courſe take place, eſpecially in thoſe ſituated under the maſtoid muſcle, which it would be imprudent to divide; nor is the ſeton here liable to the ſame objections, as when paſſed in membraneous parts. I apprehend this abſceſs indeed is not very common, becauſe I do not remember to have met with it: but Mr. Bromfield* ſays, "it puts on the "appearance of two tumors, from the "preſſure of the muſcle; the one ante-"rior between the trachæa and implanta-"tion of the tendons of the maſtoid muſ-"cles into the upper part of the ſternon; "the other poſterior, a few inches below "the maſtoid proceſs of the temporal "bone." But the common practice of paſſing a ſeton-needle through abſceſſes, by means of a *cannula*, ſeems to be a better method than he purſued.

Nevertheleſs, wherever theſe abſceſſes

* Vol. i. p. 102.

can

can be ſafely laid open, I would, of all others, prefer the cure by the firſt intention, if it can be made to ſucceed; as the moſt natural, ſpeedy, and eaſy method of affording proper aſſiſtance to the patient. But I cannot, in this inſtance, confidently recommend ſuch practice, becauſe I have not at preſent experienced it. Nor have I (knowing the danger and uncertainty of proceeding upon theory) ventured to treat of any diſeaſe, of which I have not had practical knowledge.

ADDENDA.

ON THE FISTULA LACHRYMALIS.

IN treating of the *fiſtula lachrymalis*, we joined in the opinion of thoſe who think the bone is ſeldom carious, though we have mentioned an inſtance, where the diſeaſe began in the bone; and we have ſince had a caſe, where the *os unguis* was

was found rotten upon opening the abſceſs. An aperture was readily made through it with a pointed probe, and a piece of lead being introduced, in the manner directed, the boy got well in time, without any trouble; which ſhews how little is neceſſary, or ought to be done in ſuch caſes.

On the radical Cure of an incyſted Dropſy of the Abdomen.

WE have given an inſtance, page 195, where a cyſt being taken away, cured an aſcites: and ſeeing medicines do not avail in incyſted dropſies of the abdomen, is it not worth our while to conſider whether, when they are unconnected with the adjacent parts, after taking away the water, the patient might not ſometimes be cured, by enlarging the puncture, preſſing the cyſt forward, and drawing it out?

I am aware of the difficulty that muſt ariſe,

ariſe, from the uncertainty of aſcertaining the complaint, requiring this treatment; or in other words, from our not being able to determine with preciſion, when it ought to take place, and when not: ſome judgment however may be formed, from the diſeaſe not taking its riſe in the *ovaria*, from the *viſcera* appearing to be found in the beginning, from its not ſucceeding a dropſical diatheſis, from medicines having no ſort of effect; and from the malady frequently returning, without any dropſical ſymptom, beſide a ſwelling of the abdomen, or ſuch a kind of ſwelling of the legs, or *pubis*, as ſometimes happen to pregnant women.

Perhaps, obſervation may furniſh us with other *criteria*, to judge whether a palliative only, or a radical cure ſhould be attempted: and this point being ſettled, I think we might contrive to proceed without much hazard. At preſent

preſent, I offer theſe hints to thoſe who think the ſubject deſerving attention; and time will probably determine the queſtion.

An omiſſion in the Text, page 496.

AFTER the word appetite, *(penultima)* read—but without evidence of this combination producing any other effect than what happens from the water alone; unleſs in ſome inſtances where the water is too cold, like brandy, it makes it ſit eaſier upon the ſtomach.

On Amputation.

IN our account of Amputation by the circular flap, and triple inciſion, page 537 and ſeq. it is obſerved, that either method is preferable to that in common uſe; and we ſhall now add, that the former is a great improvement of the flap operation. But it was not ſufficiently explained, that a different method of

of cure enſued, in conſequence of theſe different modes of operating; and that one of them is more calculated to promote a cure by the firſt intention, than the other: a circumſtance with which many of the faculty I am convinced are not acquainted.

In the circular flap, the ſecond intention* commonly takes place; and though this proceſs may be different under different management, and the cure in general much ſooner accompliſhed, than when we have a large open ulcer to deal with; yet the wounded muſcles being puckered together, ſuppuration more or leſs enſues: I have heard of conſiderable quantities of matter being obliged to be preſſed out from the cavity at each dreſſing, and of death not very unfrequently being the conſequence of abſorption. Whereas in the triple inciſion, there is

* By the ſecond intention I mean a gradual union of the parts, after digeſtion.

no

no cavity but a very ſmall one where the bone comes out; no conſiderable quantity of matter can either form or lodge; and there being but little more than the ſkin and muſcular fleſh to unite with each other, their immediate union will ſeldom meet with much impediment. For in moſt caſes the ſkin will lie upon the wound in the manner it is left; as happened in the caſe we have above tranſcribed from Mr. Alanſon. The queſtion then is, when we mean to cure by the firſt intention, whether cutting out part of the muſcles, or the triple inciſion, is moſt eligible for the purpoſe; and alſo whether the latter will not ſucceed alike, in every inſtance where it can be uſed?

Celſus, who meant to cure by the firſt intention, did not cut out any part of the muſcles, *but under them*; and drawing them back, ſawed off the bone as near as he could to the fleſh adhering to it. He then ſmoothened the bone which

her

had been made rough by the ſaw, and having preſerved the ſkin in a lax ſtate, he laid it without any intermediate dreſſings, againſt a level ſurface as far as it would go; and thus his operation, and after-treatment, perfectly correſponded, or rather, are both included in one: whereas when we cut out part of the muſcles, and lay the tegiments down, we ſeem to be purſuing different intentions at the ſame time *.

The double inciſion, ſince invented, is an improvement of this operation, which from what I have ſeen, will ſtand the teſt of inquiry. The hemorrhage in his time was ſtopped, in wounds †, by dry lint, or lint moiſtened with vinegar, a ſpunge ſqueezed out of cold water, and preſſure. If theſe were inſufficient, he took hold of the veſſel, and applied a

* This will be fully explained when we treat upon the cure of wounds by the firſt intention.

† Lib. v. cap. 26.

ligature;

ligature; but when circumſtances did not allow of this method, he cauterized with an hot iron: and though he gives no directions about ſtopping the bleeding in amputation, there is no doubt of theſe being the methods he uſed.

Galen alſo ſpeaks of ſuppreſſing hemorrhages from wounds of the veins and arteries by the ligature *; but the Greeks afterwards in their amputations, choſe the cautery for this purpoſe, and cured the wound by digeſtion, &c. † Hence loſing ſight of the Celſian method, we ran into many errors, which have been injurious to thoſe who have unfortunately been under the neceſſity of loſing their limbs.

* *Method. Med.* lib. v. † Paulus, lib. vi. cap. 84.

END OF THE SECOND VOLUME.

ERRATA.

The author being at a great distance from the press, and not seeing the sheets till they were worked off, begs the reader will please to make the following corrections with his pen, or any other that are necessary, and may have escaped notice.

PAGE 50, line 2, *for* it *read* phlegmone: l. 4, *dele* before: l. 12, *for* σφακελισμιυ *read* σφακελισμω. P. 52, l. 13, *for* ceres *read* ceris. P. 59, l. 10, *for* rise *read* arise, l. 12, *after* serum *add* which, l. 13, *dele* which. P. 68, l. 6, *for* or *read* on. P. 69, l. 9, *for* it is *read* is it. P. 81, l. 17, *for* empermeable *read* impermeable. P. 84, l. 19, *for* quickly *read* quietly. P. 88, l. 12, *for* occasion *read* occasions. P. 95, l. 17, *for* fascialata *read* fascia-lata, l. 20, *for* met *read* meet. P. 119, l. 21, *for* Belloſt's *read* Bell's. P. 123, l. 15, *for* protid *read* parotid. P. 139, l. 3, *for* kinds *read* kind. P. 142, l. 14, *after* parotid *add* and. P. 143, l. 5, *after* by *add* an. P. 159, l. 22, *for* hoides *read* hoidei. P. 164, l. 8, *for* doubled *read* doubles. P. 170, l. 6, *for* scirrh *read* scirrhi. P. 172, l. 14, *for* securing *read* scowering. P. 177, l. 12, *for* warren *read* warner. P. 180, l. 16, *for* from *read* form. P. 197, l. 11, *for* annum *read* anum. P. 203, l. 15, *for* is *read* was. P. 209, l. 3, *for* perineo *read* perinæo. P. 213, l. 17, *for* colloſa *read* calloſa. P. 214, l. 5, *for* fiſtula *read* fiſtulæ. P. 220, l. 1, *for* curer *read* cure. P. 223, l. 11, *for* fiſtulæ *read* fiſtula. P. 234, l. 18, *for* Paulu *read* Paulus. P. 244, l. 9, *for* Glutæ *read* Glutæi. P. 254, l. 2. *for* op. *read* ap. P. 265, l. 15, *for* Albugenia *read* Albuginea. P. 267, l. 8. *for* increaſe *read* incarne. P. 269, l. 5, *for* fascialata *read* fascia-lata, l. 19, *for* drapompholygos *read* diapompholygos. P. 282, l. 6, *dele* that. P. 291, l. 12, *for* γαγραινα *read* γαγγραινα. P. 315, l. 2, *for* Emphyrema *read* Emphyſema. P. 319, l. 7, *for* healing *read* heating. P. 320, l. 15, *for* going *read* goes. P. 321, l. 18, *for* augument *read* argument. P. 332, l. 16, *for* secret *read* secrete. P. 338, l. 10, *for* Gran. *read* Gan.

ERRATA.

Gan. P. 395, l. 11, *for* glutæ *read* glutæi. P. 408, l. 13, *for* ſwelling *read* ſphacelus. P. 410, l. 8. *for* twenty-eight ounces of tincture of bark *read* twenty-eight ounces of decoction, and two ounces of tincture of bark. P. 426, l. 8, *for* reſolution *read* ſolution. P. 438, l. 7, *for* painted *read* pointed. P. 480, l. 21, *for* Heaoma *read* Steatoma. P. 563, l. 8, *after* to *add* be.

IN THE MARGINAL NOTES.

P. 60, *for* ſpit *read* ſpat. P. 64, *for* abſorption *read* abſceſſes. P. 98, *for* ractice pof *read* practice of. P. 104, *for* by intention *read* by firſt intention. P. 115, *for* omitted *read* imitated. P. 188, *for* empyemas *read* empyema. P. 277, *for* annual *read* annular. P. 294, *for* γαγωξαιναν *read* γαγγξιναν. P. 543, l. 4. *for* he *read* we.

There are ſeveral ſtops omitted, and others wrong placed; but theſe will be readily put to rights by a medical reader, without ſpecification.